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Venture Capital in the Rise of Crypto Economy: Problems and Prospects

Dr. Lin Lin* and Dominika Nestarcova**

ABSTRACT

The rise of the crypto economy brings promises and perils to the venture capital industry. Distributed ledger technologies offer new investment opportunities to venture capitalists (VCs). Traditional VCs are gradually diversifying their portfolios to invest in crypto-assets and blockchain technology projects, as well as launching crypto-centric funds. Simultaneously, venture capital funds are developing various hybrid financing models to adopt and imitate the fundraising mechanism of initial coin offerings. However, the polymorphous and evolving features of crypto-assets also introduce new risks to the venture capital market. The paper therefore examines the emerging models in the venture capital crypto landscape, identifies the new risks of the crypto economy, and examines the current regulatory and contractual solutions. The paper also proposes recommendations for the venture capital crypto landscape going forward, including heightened regulations on crypto-centric funds and fund managers.

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INTRODUCTION

Blockchain technologies are transforming the landscape of the financial industry.¹ Initial coin offerings (ICOs), also referred to as “token sales” or “initial token offerings” have become a burgeoning method for start-ups to raise

1. Blockchain technology can be considered as a form of a distributed ledger technology. The U.K.’s Financial Conduct Authority describes distributed ledger technology as ‘a set of technological solutions that enables a single, sequenced, standardized and cryptographically-secured record of activity to be safely distributed to, and acted upon by, a network of varied participants. This contrasts with a traditional centralised ledger system, owned and operated by a single trusted entity.’ See FINANCIAL CONDUCT AUTHORITY, *Discussion Paper on distributed ledger technology*, Discussion Paper 2017, 10. A report by FINRA describes distributed ledger technology as ‘a distributed database maintained over a network of computers connected on a peer-to-peer basis, such that network participants can share and retain identical, cryptographically secured records in a decentralized manner’. See FINRA, *Distributed Ledger Technology: Implications of Blockchain for the Securities Industry*, FINRA (2017), http://www.finra.org/sites/default/files/FINRA_Blockchain_Report.pdf. Deloitte describes distributed ledger as a ‘technology that allows people who don’t know each other to trust a shared record of events’. This shared record, or ledger, is distributed to all participants in a network who use their computers to validate transactions and thus remove the need for a third party to intermediate. See DELOITTE, *Blockchain: Enigma. Paradox. Opportunity.*, DELOITTE LLP (2016), <https://www2.deloitte.com/content/dam/Deloitte/uk/Documents/Innovation/deloitte-uk-blockchain-full-report.pdf>. The present paper will use the term “blockchain technology” and “crypto,” as a catchphrase for technological ledgers which chain token transaction records together into so-called ‘blocks’ using cryptographic signatures.

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financing directly from public retail investors.² As a fundraising method, ICOs are a creation of blockchain technology coupled with crowdfunding. ICOs operate in a digital space, using blockchain technology, where the ICO issuer (start-up company) releases tokens for a public offering and sells them either for cryptocurrency or fiat currency. Each issue of tokens is characterized by specific conditions which dictate what sort of rights, return or utility the investors can derive from the purchased tokens.³

At the heart of the ICO funding model is a promise to utilize blockchain technology and smart contracts to enforce financial contracting via the underlying code. Instead of mediating the transactional relationship by regulations and contracts, the fundraising process can be carried out using deterministic code (smart contracts) that automates the relationship between the ICO issuer and investor. The concept of smart contracts was introduced by Nick Szabo, who defined them as “a set of promises, specified in digital form, including protocols within which the parties perform on these promises.”⁴ To sustain the argument of self-regulation, ICO issuers painted a picture where they can design smart contracts for a specific purpose of collecting funds and distributing tokens. Consequently, in theory, smart contracts can substitute the traditional legal frameworks and embed consumer protection and securities regulation, while effectively managing agency risks and the information asymmetry between the contracting parties. However, this ideal construct does not reflect practical reality. Since 2013 (arguably when the first ICOs emerged), the ICO funding model has failed to deliver on these promises, and has instead introduced numerous investor risks. As Cohney et al. demonstrate, the underlying code effecting the token sale has failed to deliver on not just the ideational expectations, but also the whitepaper promises.⁵

2. An Initial Coin Offering ('ICO') is a new form of a financing method, whereby the issuing company offers cryptographically secured digital assets (usually called 'tokens') in exchange for fiat currency or other form of virtual currency.

3. The process of tokenization enables a new medium of exchange – crypto-assets. In simple terms, a crypto-asset is a privately issued currency or a medium of value, whereby the ICO issuer can set its terms and its utility function, and create a self-sustainable mini-economy with the ICO project at its heart. Not only can a token (which has no intrinsic value) be used as a medium of exchange in this micro-economy, it is also an intrinsic part of the blockchain technology itself, as it allows users to participate in the created economy.

4. Nick Szabo, *Smart Contracts: Building Blocks for Digital Markets*, U. AMSTERDAM (1996), http://www.fon.hum.uva.nl/rob/Courses/InformationInSpeech/CDROM/Literature/LOTwinterschool2006/szabo.best.vwh.net/smарт_contracts_2.html.

5. A whitepaper is a promotional document used by ICO issuers to describe the financing process and the blockchain product or service being developed, together with the functionality of the sold tokens in the blockchain product being developed. Shaanan Cohney et al., *Coin-Operated Capitalism* (July 17, 2018), COLUM. L. REV. (forthcoming), <https://ssrn.com/abstract=3215345>.

Crypto-assets⁶ issued in ICOs are arguably the riskiest non-leveraged asset class investors may access at the moment. ICO issuers usually have no historical track record, and conduct their ICOs online across jurisdictions. Since ICOs are based on exchanging cryptocurrencies for tokens (equity-based or otherwise), the volatile price fluctuation of cryptocurrencies may make ICOs an uncertain means of raising capital.⁷ Moreover, because of its online nature, ICO investors have little bargaining power to protect themselves contractually and have no way to demand preference shares. Furthermore, there are no effective gatekeepers (such as auditors or credit rating agencies) in the ICO markets to ensure that only companies with legitimate prospects will be able to successfully complete the offer. The major risks of ICOs are largely brought about by: (1) the extreme uncertainty surrounding the volatility of crypto-assets and the implementation of the evolving blockchain technology and business ideas; (2) the high agency costs and the significant information asymmetry associated with ICOs;⁸ (3) the start-ups' lack of substantial tangible assets and operational track records; (4) the lack of intermediaries for pricing and valuation; (5) the cybersecurity risks; and (6) a lack of effective and qualified custodian solutions for crypto-assets.

However, though practitioners and regulators generally agree that ICOs and crypto-assets pose significant investor risks, the market has a lack of comprehensive regulation and enforcement. The regulatory positions and responses to these risks vary across jurisdictions depending on the regulatory remit, the scale of the activities and their impact on investors.⁹ Furthermore, market institutions, including contractual designs, reputation, and insurance, have not yet been well-developed in this young and rapidly evolving market, which adds to the problems of market integrity and investor protection.

Prior to the rise of ICOs, venture capital had occupied a niche market by filling a capital gap for early-stage, high risk, tech start-ups, while also managing a pool of investments and adding value to these tech start-ups.¹⁰ Because of its unique nature of combining capital and expertise, venture capital is widely

6. See definition, *infra* at note 17. Crypto economy as an abstract concept is used in this paper to denote an emerging sector of economy that is based on the technological innovations of bitcoin and distributed ledger technologies.

7. Indeed, in the span of 3 months from Dec. 2017 to Mar. 2018, the price of Bitcoin has swung from more than \$19,000 to less than \$6,000. *Bitcoin price index from May 2017 to May 2019*, STATISTICA.COM (July 1, 2019), <https://www.statista.com/statistics/326707/bitcoin-price-index/>.

8. See *infra* Part III of this paper.

9. SECURITIES & FUTURES COMMISSION, *Statement on regulatory framework for virtual asset portfolios managers, fund distributors and trading platform operators*, H.K. SECURITIES & FUTURES COMMISSION (Nov. 1, 2018), <https://www.sfc.hk/web/EN/news-and-announcements/policy-statements-and-announcements/reg-framework-virtual-asset-portfolios-managers-fund-distributors-trading-platform-operators.html>.

10. Lin Lin, *Venture Capital Exits and the Structure of Stock Markets: Lessons from China*, 12(1) ASIAN J. COMP. L. 1, 2 (2017).

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recognized as a powerful engine that can drive a nation's innovation, job creation, knowledge economy, and macro-economic growth.¹¹

The rise of the crypto-economy¹² brings both promises and perils to the venture capital industry. By mid-2017, ICOs had surpassed angel and venture capital funding as a more efficient and less costly method of early-stage financing for blockchain tech start-ups.¹³ This trend is not stopping. The number of ICOs that launched worldwide in 2017 reached 342.¹⁴ In the first quarter of 2018, Coindesk reported a total of 202 ICOs with a 6.3 billion USD raised in funding.¹⁵ The market capitalization of all crypto-assets as of September 2018, including Bitcoin, is at a staggering 240 billion USD in value.¹⁶ In addition, crypto-assets have become a new investable asset class that is uncorrelated with any other asset class and is highly liquid, given that the crypto markets trade 24 hours a day. Simultaneously, the crypto market is experiencing significant capital inflow because the underlying blockchain technologies promise value creation on a massive scale. In 2018, this renewed interest by venture capital came at a time when ICOs were experiencing a bear market following the ICO bonanza in 2017. Nevertheless, the market is still evolving with an increasing number of institutional investors gradually entering the space, more custodian solutions being offered, and more regulatory developments being proposed across jurisdictions.

Venture capital has developed a new interest in the burgeoning crypto market.¹⁷ Given the new opportunities and the significant liquidity and financial

11. *Id.*

12. Crypto economy as an abstract concept is used in this paper to denote an emerging sector of economy that is based on the technological innovations of bitcoin and distributed ledger technologies.

13. Seoyoung Kim et al., *Crypto-Assets Unencrypted* (Jan. 31, 2018), J. INV. MGMT. (forthcoming); Notable ICOs are the DAO (raised USD152 million), Bancor (raised USD153 million), Filecoin (raised USD257 million), Tezos (raised USD 232 million), and EOS (raised USD185 million). See also EY, *Initial Coin Offerings (ICOs)*, EY RES. (Dec. 2017), <http://www.ey.com/Publication/vwLUAssets/ey-research-initial-coin-offerings-icos/%24File/ey-research-initial-coin-offerings-icos.pdf>.

14. COINDESK, *ICO Tracker*, COINDESK, <https://www.coindesk.com/ico-tracker/> (last accessed Dec. 26, 2018).

15. COINDESK, *State of Blockchain Q1 2018*, COINDESK (2018), <https://www.coindesk.com/research/state-blockchain-q1-2018/?slide=1>.

16. COINMARKETCAP, *Total Market Capitalization* (Mar. 29, 2018), COINMARKETCAP, <https://coinmarketcap.com/charts/>. For other market data providers, see Tokendata at <https://www.tokendata.io/>, ICOTracker at <https://icotracker.net/> and ICOStats at <https://icostats.com/>.

17. There is no settled definition of crypto-assets. Terms 'crypto-assets', 'digital tokens' or 'crypto-tokens' are often used interchangeably to denote a new asset class. The present paper will adopt the term 'crypto-assets' for the purposes of clarity. A crypto-asset is a digital representation of value. In broad terms, a crypto-asset is a representation of a particular asset or a utility that is usually inherent to the functioning of a specific blockchain technology use-case. A particular crypto-asset can be used as a token to participate/utilise in a specific blockchain ecosystem, but simultaneously also as a financing medium through which ICO issuers raise capital from the future users of their blockchain product/service. Burniske and Tatar broadly classify 'cryptoassets' into: cryptocurrencies, cryptocommodities and cryptotokens. Cryptocurrencies are currencies within the traditional understanding fulfil three purposes – to serve as a means of exchange, store of value and unit of account. Cryptocommodities provide raw digital resources (computer power, storage). Cryptotokens function to orchestrate products and services (most commonly

flexibility offered by crypto-assets, venture capitalists (VCs) are gradually diversifying their portfolios by directly investing in blockchain start-ups, creating hybrid funding models, or launching crypto-centric funds to invest in blockchain start-ups, crypto-assets and ICOs.¹⁸ From 2017 to 2018, an estimated 300 new funds have been set up or have converted their strategy to be blockchain-focused.¹⁹ The crypto-funds²⁰ control an estimated 7.5 - 10 billion USD of assets.²¹ VCs have also invested into crypto fund of funds (FOFs), and have used ICOs as a means of exiting their investments.²² Other venture capital firms have taken illiquid assets, and issued tradable crypto-assets that give investors rights in these assets ("asset-backed tokens").²³ Still others have raised capital for tokens, which will provide its investors with access to a portfolio of venture capital-backed companies²⁴ or real estate.²⁵ On the flip side, some crypto firms are setting up venture capital arms, focusing exclusively on ventures and projects relating to blockchain technology and crypto-assets.²⁶

The majority of academic literature in this space has focused on the topic of ICOs and the attendant regulatory uncertainties.²⁷ Although there is literature

operating within applications built on blockchains such as the Ethereum). See CHRIS BURNISKE & JACK TATAR, CRYPTOASSETS: THE INNOVATIVE INVESTOR'S GUIDE TO BITCOIN AND BEYOND (2018).

18. The venture capital sector has also been exploring ways in which tokens may be employed as a new asset class since 2017. See Richard Kastelein, *What Initial Coin Offerings Are, and Why VC Firms Care*, HARV. BUS. REV. (Mar. 24, 2017), <https://hbr.org/2017/03/what-initial-coin-offerings-are-and-why-vc-firms-care>.

19. AUTONOMOUS NEXT, #Crypto Utopia (2018), AUTONOMOUS NEXT, <https://next.autonomous.com/crypto-utopia/>. Another report by Outlier Ventures estimated that the VC investments in the blockchain space have surged from a total of USD900 million in 2017 to USD2.85 billion in 2018, a 316% increase. See Joel John, *State of Blockchains Q3: The professionals have moved in with VC investments soaring to an all-time high*, OUTLIER VENTURES (Nov. 2018), <https://outlierventures.io/research/state-of-blockchains-q3-the-professionals-have-moved-in-with-vc-investments-soaring-to-all-time-high/>. These numbers may not reflect on the full scope of VC funding in the blockchain space as some venture capital deals will go undisclosed.

20. A term used to denote funds that have adopted a crypto-strategy and are actively investing in blockchain start-ups and crypto-assets.

21. AUTONOMOUS NEXT, *supra* note 19.

22. See Part II of this paper.

23. JWC fund. See JWC FUND, <https://jwcventures.com/> (last accessed 20 Dec. 2018).

24. Andra Capital raised USD500 million for a token called Silicon Valley Coin, see Jeff John Roberts, *How to Value Bitcoin and Invest in the Crypto Economy: New Advice from Chris Burniske*, FORTUNE (May 4, 2018), <http://fortune.com/2018/05/04/ledger-burniske/>

25. Fundplaces Lee Meixian, *Singapor Firms Dip Toes Into Blockchain Tech for Property*, BUS. TIMES (July 28, 2017), <https://www.businesstimes.com.sg/real-estate/singapore-firms-dip-toes-into-blockchain-tech-for-property>.

26. Examples include Huobi. See HUOBI, <https://www.huobi.com/en-us/capital/> (last accessed Dec. 20, 2018).

27. Zetzsche et al. offer a taxonomy of ICOs based on the analysis of a database of 450 ICO white papers. See Dirk A. Zetzsche et al., *The ICO Gold Rush: It's a Scam, It's a Bubble, It's a Super Challenge for Regulators*, University of Luxembourg Law Working Paper No. 11/2017; UNSW Law Research Paper No. 83; University of Hong Kong Faculty of Law Research Paper No. 2017/035; European Banking Institute Working Paper Series 18/2018, (Jul. 24, 2018) <http://dx.doi.org/10.2139/ssrn.3072298>; Catalini & Gans analyse how ICOs can be used to fund venture start-up costs. See Christian Catalini & Joshua S. Gans, *Initial Coin Offerings and the Value of Crypto Tokens*, NBER Working Paper No. 24418 (Mar. 2018), <https://www.nber.org/papers/w24418>; Chuen and Li & Mann emphasize decentralized innovation,

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focusing on the interaction between ICOs and the venture capital industry, it is limited to comparisons between venture capital and ICO from an economic perspective.²⁸ Thus, there is an academic lacuna on the new problems and risks arising from the VC's involvement in the ICO market from a legal perspective. This paper fills the literature gap by discussing the new hybrid models and examining the problems and risks arising from VC's involvements in ICOs and the crypto sector. The paper suggests that heightened regulatory responses, including regulatory warnings, guidance, and enforcement actions, would aid in reducing the regulatory uncertainty and transactional costs associated with VC's involvement in the ICO market. Additionally, increased regulatory responses should also be complemented by various market mechanisms including contractual design, reputation and insurance that suit the special nature of the crypto sector. This would in turn facilitate a healthy and sustainable venture capital-crypto ecosystem.

The remaining parts of this article are structured as follows. Part I discusses the interaction between venture capital and the ICO model; Part II examines

networks effects and the wisdom of the crowds as concepts inherently linked to value creation behind an ICO. See David Lee Kuo Chuen, *Decentralization and Distributed Innovation: Fintech, Bitcoin and ICO's*, SSRN (Oct. 25, 2017), <https://ssrn.com/abstract=3107659>, and Jiasun Li & William Mann, *Initial Coin Offering and Platform Building*, SSRN (Jan. 31, 2018), <https://ssrn.com/abstract=3088726>; Kaal & Dell'Erba outline the core risk factors for investors and flag ICO practices that require regulators' attention. See Wulf A. Kaal & Marco Dell'Erba, *Initial Coin Offerings: Emerging Practices, Risk Factors, and Red Flags*, U of St. Thomas (Minnesota) Legal Studies Research Paper No. 17-18, (Nov. 8, 2017) in FINTECH HANDBOOK (Florian Mösllein, Sebastian Omlor and Verlag C.H. Beck eds.) (forthcoming 2018), <https://ssrn.com/abstract=3067615>; and Usman Chohan, *Initial Coin Offerings (ICOs): Risks, Regulation, and Accountability*, Discussion Paper Series: Notes on the 21st Century (Nov. 30, 2017), <https://ssrn.com/abstract=3080098>. Keidar and Blemus (2018) highlight the presence of market abuse, which has not been eliminated in ICOs and argue that due to the unregulated nature of ICOs, the danger of market abuse is even greater. See Roy Keidar & Stéphane Blemus, *Cryptocurrencies and Market Abuse Risks: It's Time for Self-Regulation*, LEXOLOGY (forthcoming 2018), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3123881. The regulatory responses to these risks have varied and as Clements argues, there is an inherent difficulty in regulating the crypto market. See Ryan Clements, *Assessing the Evolution of Cryptocurrency: Demand Factors, Latent Value and Regulatory Developments*, 8 MICH. BUS. & ENTREPRENEURIAL L. REV. (forthcoming 2018), <https://ssrn.com/abstract=3117635>; Iris H. Y. Chiu & Edward F. Greene, *The Marriage of Technology, Markets and Sustainable (and) Social Finance: Insights from ICO Markets for a New Regulatory Framework*, 20 EURO. BUS. ORG. L. REV. 139 (2019); Chris Brummer, *Disruptive Technology and Securities Regulation*, 84 FORDHAM L. REV. 977-1052 (2015); Kevin Werbach, *Trust, But Verify: Why the Blockchain Needs the Law*, 33 BERKELEY TECH. L.J. 489 (2018); Hui Deng, (Robin) Hui Huang & Qingran Wu, *The Regulation of Initial Coin Offerings in China: Problems, Prognoses and Prospects*, EURO. BUS. ORG. L. REV. 465 (2018). Hans Tjio & Hu Ying, *Collective Investment: Land, Crypto and Coin Schemes - Regulatory "Property"*, EURO. BUS. ORG. L. REV. (forthcoming 2020).

28. Chod et al. characterize conditions under which an ICO dominates traditional VC financing and conclude that the ICO model leads to an agency conflict between the entrepreneur (ICO issuer) and investors. See Jiri Chod & Evgeny Lyandres, *A Theory of ICOs: Diversification, Agency, and Information Asymmetry*, SSRN (July 18, 2018), <https://ssrn.com/abstract=3159528>; Boreiko looks at the recent trends and competitors to VC industry, including crowdfunding and ICOs as alternative credit channels for tech start-ups. See Dmitri Boreiko, *SMEs and Start-Ups Financing: From Governmental Support to ICOs and Token Sales*, SSRN (Dec. 2017), <https://ssrn.com/abstract=3108677>. Lipusch compares the ICO and VC models and discusses the potential of ICO in democratizing VC and incentivizing the creation of new innovative business models. See Nikolaus Lipusch, *Initial Coin Offerings – A Paradigm Shift in Funding Disruptive Innovation*, SSRN (Mar. 23, 2018), <https://ssrn.com/abstract=3148181>.

novel and hybrid models and their accompanying risks. Part III elaborates on the risks arising from the interaction between VC and ICOs. Part IV proposes regulatory and market mechanisms that would help to address the risks and problems in this space. Part V concludes.

I. THE COMPETITIVE INTERACTION BETWEEN VENTURE CAPITAL AND ICO MODEL

The rise of ICOs has raised the possibility of this new funding model replacing venture capital as a more efficient way of financing start-ups. The ICO model is particularly attractive to issuers as an efficient and convenient way of fundraising. Issuers benefit from: (i) engaging the community by enabling an ordinary blockchain enthusiast to directly contribute to the business idea instead of limiting the investment opportunity to accredited investors; (ii) lowering transactions costs associated with the ICO (since there is no need to hire underwriters, with the only costs being marketing and overseeing the ICO execution); (iii) avoiding the venture capital funding pitfalls of raising capital by stages at the expense of suffering a dilution; and (iv) community creation, whereby the digital outreach coupled with the ICO hype offers greater marketing exposure and concurrently engages early adopters who, in order to profit from their early investment, will strive to market the business idea to expand its adoption (and thereby capitalize on the benefits of the network effect).²⁹

In line with this, crypto-assets have become a popular investment medium. The tokens themselves may grant the investor a right to use a product or service being developed, the right to sell the token on secondary markets, or voting rights. Investors will have different objectives in purchasing the tokens, such as to support the ICO project, to become involved in the management of the project, or to receive a return on the rising price of the tokens through a resale via secondary markets such as crypto-exchanges.³⁰

More fundamentally, the disruptive effects of ICOs can be seen from the perspective of the ICO's funding model substituting the intermediary role of venture capitalists. The mode through which capital is allocated is being decentralized as the blockchain technology democratizes access to investment opportunities. Indeed, the barriers to investing have disappeared as start-ups conducting an ICO can engage in global fundraising and disperse the high-risk venture by spreading it over a larger pool of investors. The increased flexibility

29. Howell et al. single out the following benefits of the ICO funding model: to finance decentralized networks, to raise financing from future customers, to establish immutable and non-negotiable governance, to provide rapid liquidity, to hasten network effects and to reduce transactions. See Sabrina Howell et al., *Initial Coin Offerings: Financing Growth with Cryptocurrency Token Sales*, European Corporate Governance Institute (ECGI) - Finance Working Paper No. 564/2018 (June 21, 2018), <https://ssrn.com/abstract=3201259>.

30. For more on ICOs, see Dominika Nestarcova, *Lifting The "Digital Token's Veil": A Critical Appraisal of Initial Coin Offerings in Singapore*, CTR. BANKING & FIN. L., NAT'L U. SING. (July 2018).

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is also evident in the asset model – traditional venture capital is a long-term lock-in equity investment for investors (i.e. LPs), which contrast with, the token model that enables investors to exit or adjust their positions with less restrictions.

There are various other reasons apart from the above promises and special features which may cause entrepreneurs and investors to prefer ICOs over venture capital. First, ICOs are more efficient than venture capital in raising finance from the public. Because ICOs are marketed on online platforms, ICOs are able to tap on a global pool of potential investors.³¹ Further, ICOs are conducted online and without any intermediary between the investors and the fundraisers. By contrast, entrepreneurs have to present their business ideas to a substantial number of VCs and go through several rounds of negotiations before obtaining venture capital. Also, ICOs allow the start-up to raise funds from global investors, thereby eliminating geographical constraints and reducing transactional costs. In contrast, venture capital investment is typically geographically confined, which restricts start-ups' access to funds if they are not situated in a venture capital-rich area.³² Second, ICOs are more liquid. Crypto-assets can be listed on any of the over 40 crypto-exchanges (e.g. Binance) for trading.³³ Thus, investors are able to get quick returns on their crypto-asset investment because of the flexibility with which they can exit the market. By contrast, venture capital is much less liquid and may take 10 years or more before it exits, usually after an IPO or a merger.³⁴

In contrast, some argue that venture capital has not, and will, not be replaced by ICOs. First, and most importantly, unlike ICOs, which only provide start-up capital to entrepreneurs, VCs contribute both financial and non-financial value to start-ups. VCs put enormous man-power into conducting due diligence of high-risk start-ups and providing the necessary mentorship and guidance to entrepreneurs regarding building sound revenue models and allocating capital efficiently.³⁵

Second, the information asymmetry in ICOs is more extreme than that of venture capital. ICOs typically occur at an even earlier stage than venture capitals. Thus, retail investors, who generally lack knowledge and expertise regarding the start-ups, often have nothing more than the whitepaper published by the start-up to inform their decision.³⁶ This provides fertile ground for the

31. Kaal & Dell'Erba, *supra* note 27, at 11.

32. John Armour & Luca Enriques, *The Promise and Perils of Crowdfunding: Between Corporate Finance and Consumer Contracts*, 81(1) MODERN L. REV. 51, 55 (2018).

33. Kaal and Dell'Erba, *supra* note 27, at 7.

34. Ronald J. Gilson, *Engineering a Venture Capital Market: Lessons from the American Experience*, 55 STAN. L. REV. 1067, 1074 (2003) (noting that VC funds typically have ten-year terms).

35. Michael Klausner & Kate Litvak, *What Economists have taught us about Venture Capital Contracting*, in BRIDGING THE ENTREPRENEURIAL FINANCING GAP: LINKING GOVERNANCE WITH REGULATORY POLICY (Michael Whincop ed., 2001).

36. Yan Chen, *Blockchain Tokens and the Potential Democratization of Entrepreneurship and Innovation*, 61 BUS. HORIZONS 567, 574 (2018).

entrepreneur to engage in opportunistic behaviour or even outright fraud.³⁷ Also, unlike venture capital, where there are many well-developed contractual techniques to reduce information asymmetry and agency costs, there are no equivalent mechanisms in the ICO context. For example, VCs typically do not provide all the necessary capital up front, and instead invest in stages.³⁸ Staged financing incentivises the entrepreneurs to work harder in order to secure subsequent financing from VCs.³⁹ By contrast, the ICO is usually a one-time affair. As long as the target amount is raised, the project is considered successful. Further, ICO projects are start-ups and generally do not have reputational capital or past records that can be pledged for investor assurance. As a result, scams and fraudulent fundraising are common in the ICO context.⁴⁰ Moreover, VCs may use their bargaining power to extract significant protective covenants from the start-up (e.g. dividend and liquidation preferences, nomination of director, veto rights in the board, etc).⁴¹ In particular, venture capital investors typically have the right to name a majority of a portfolio company's directors even though their stock represents less than a majority of the portfolio company's voting power. These VC-appointed board members exercise control over and thereby monitor the management of the portfolio company. By contrast, ICO investors do not have the equivalent level of control rights in the invested projects, resulting in increased agency costs. This is because ICO investors generally does not have the opportunity or expertise to bargain for such protections (nor are they in the bargaining position to do so) given the online and one-sided nature of ICO transactions. In addition, the limited lifespan of venture capital cycles and reputation play important roles in mitigating the risks and constraining the behavior of the VCs.⁴²

Third, some note that ICOs are currently confined to a narrow market segment – the blockchain or crypto start-ups space.⁴³ By contrast, venture capital invests into various kinds of high-tech start-ups. Meanwhile, ICOs are based on exchanging cryptocurrencies for tokens (equity-based or otherwise). The volatile price fluctuation of cryptocurrencies may make ICOs an uncertain means of raising capital, especially in instances of crypto-market volatility when the ICO

37. Examples include the REcoin and Diamond Reserve Club ICO frauds. See SEC, *SEC Exposes Two Initial Coin Offerings Purportedly Backed by Real Estate and Diamonds*, SEC (2017), <https://www.sec.gov/news/press-release/2017-185-0>.

38. Lin Lin, *Managing the Risks of Equity Crowdfunding: Lessons from China*, 17(2) J. CORP. L. STUD. 327, 337 (2017).

39. *Id.*

40. Sherwin Dowlat, *Cryptoasset Market Coverage Initiation: Network Creation*, BLOOMBERG 24 (July 11, 2018), https://research.bloomberg.com/pub/res/d28giW28tf6G7T_Wr77aU0gDgFQ.

41. See Gilson, *supra* note 34, at 1078-87.

42. Lin Lin, *The Private Equity Limited Partnership in China: A Critical Evaluation of Active Limited Partners*, 13(1) J. CORP. L. STUD. 185, 213 (2013).

43. Andrea Minto et al., *Separating apples from oranges: identifying threats to financial stability originating from FinTech* 12(4), CAP. MKTS. L.J. 428, 462 (2017).

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issuers fail to convert the crypto-assets into fiat currencies. Rapid devaluation can therefore pose a problem for product development.

Fourth, regulatory responses to ICOs vary widely from outright ban (such as in China and South Korea) to more permissive regimes (such as in Estonia and Malta).⁴⁴ Even in jurisdictions that adopt a more permissive attitude to ICOs, regulation of ICOs is still at a nascent stage. Should stricter regulation be adopted in the future, this may increase the costs of using ICOs to raise capital, and may cause start-ups to fall back on VCs.

Lastly, as indicated in Table 1 and Table 2 below, venture capital remains a far more popular choice than ICOs for investors. This can be seen in Table 1, which compares the global funding volume between venture capital and ICOs on a quarterly basis between 2015 to 2018. Although the overall comparison may not constitute a fair representation of ICOs, which are mainly used for technology-related or blockchain-related investments, even in the technology-related sector, venture capital remains the preferred choice for investors. This can be seen in Table 2, which compares the global volume between VC-backed fintech funding and ICO funding.

Nevertheless, ICOs and venture capital are not necessarily mutually exclusive. Indeed, the following section illustrates the different models that the venture capital sector pursues to capitalize on the ICO model and crypto-assets as a new asset class. The potential problems within these models will also be discussed.

Table 1 - Comparison of Volume of Funding raised through Venture Capital and ICOs⁴⁵

44. Zetsche et al., *supra* note 27, at 3-4.

45. The data was sourced and compiled by the authors from Coindesk and Venture Pulse reports at KPMG.

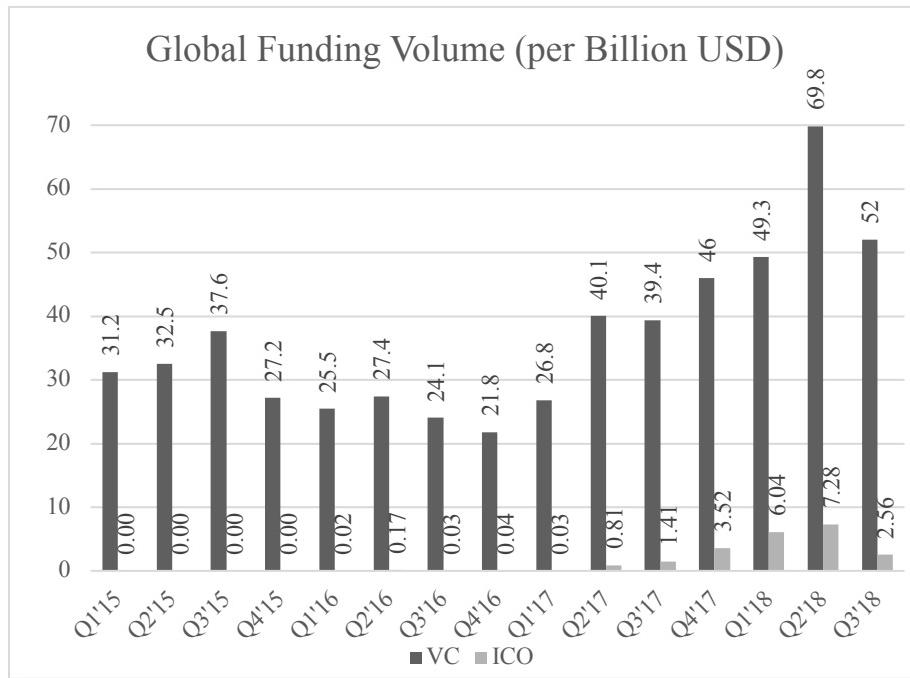
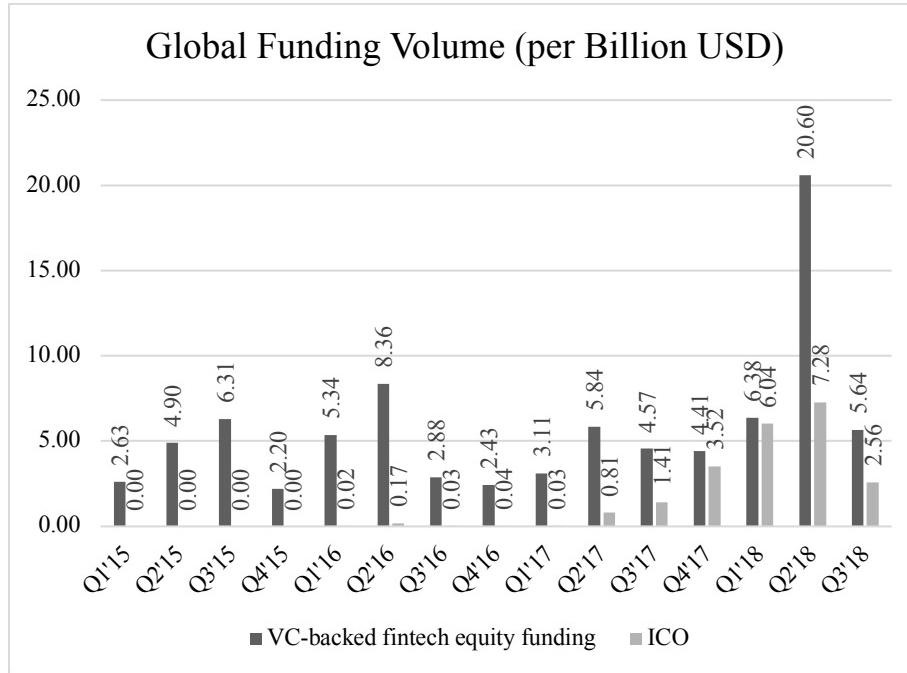


Table 2 - Comparison of Volume of Global VC-backed Fintech Funding and ICOs⁴⁶

46. Source: CB-insights, *Global FinTech Report 2018 Q3*, https://www.cbinsights.com/reports/CB-Insights_Fintech-Report-Q3-2018.pdf; and COINDESK.COM, <https://www.coindesk.com/ico-tracker>. Calculation by the authors.

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II. EMERGING HYBRID MODELS AND PROBLEMS

The rise of crypto-assets has given many VCs a new opportunity to reinvent themselves by leveraging the ICO fundraising model and incorporating it into novel venture capital models. The oft-stated threat of ICOs disintermediating the function of VCs in capital markets has incentivized the venture capital industry to come up with creative business models and solutions regarding the most efficient method to invest in blockchain tech start-ups and thereby tap into the vast market of crypto-assets in order to diversify their asset portfolios.

A. Launching a crypto fund

1. A newly-raised crypto-fund

First, VCs may raise a separate pool of capital from investors and establish a separate crypto fund to invest in blockchain start-up's equity and/or crypto-assets. These investments may include: (i) crypto-assets purchased on a secondary market, (ii) crypto-assets purchased in a pre-sale or ICO sale and, or (iii) blockchain tech start-up equity. The crypto fund can invest in a single or a mixture of the above projects.⁴⁷ The process involves setting up a separate fund

47. See Theodore Schleifer, *Andreessen Horowitz is Preparing to Launch A Separate Fund for Crypto Investments*, RECODE (Apr. 23, 2018), <https://www.recode.net/2018/4/23/17273766/andreasen>.

and raising capital from investors, including accredited investors, fund of funds, or (increasingly in 2018)⁴⁸ other investors who are comfortable with investing in the crypto-space.

One example is a16z, a crypto-fund set up by a venture capital firm Andreessen Horowitz,⁴⁹ which has invested more than \$300 million in blockchain companies and protocols. The fund utilizes a diversified approach, where it invests in a start-up's equity, convertible notes, crypto-assets, or ICOs.⁵⁰ This model circumvents any restrictions on a general partners' (GPs) investment mandate and caters to investors who seek out crypto investments. Other examples of VCs which have tapped into the potential of crypto-assets include Blockchain Capital, one of the largest venture capital firms active in the ICO sphere.⁵¹ Similarly, in China, out of 46 new venture capital funds set up in the year of 2017, nearly 20% of them focus on blockchain projects.⁵² In particular, DHVC Capital, which is a venture capital firm set up in 2013,⁵³ has 28 projects involving crypto trading as of December 2018.⁵⁴ It has also invested in 65 blockchain-related projects as of December 2018, accounting for 67.7% of the total investment projects.⁵⁵

There are a number of advantages to this model. First, cryptocurrencies offer higher liquidity to investors as compared to investing into venture capital which has a long lock-in period. Second, having a liquid fund enables more flexible portfolio rebalancing whenever the GPs deem it necessary in accordance with the changing macro-conditions. The liquidation of positions is carried out via a buy-back mechanism followed by reselling on a secondary market.

Nevertheless, there are several problems with this model. First, the crypto fund may be a parallel fund alongside the pre-existing venture capital fund. A conflict of interests may arise when a VC simultaneously serves as a fund

horowitz-separate-crypto-fund; see also Theodore Schleifer, *Why Are Big VCs Opening Up Crypto Funds?*, RECODE (June 21, 2018), <https://www.recode.net/2018/6/21/17484524/venture-capital-cryptocurrency-investing-structures>.

48. VALUE WALK, *Massive Growth of Crypto Funds Continues in 2018*, EFT TRENDS (May 1, 2018), <https://www.eftrends.com/portfolio-construction-channel/massive-growth-of-crypto-funds-continues-in-2018/>.

49. Andreessen Horowitz is a private venture capital firm. See <https://a16z.com> (last accessed Dec. 26, 2018).

50. Polina Marinova, *Why the Structure of Andreessen Horowitz's New USD300 Million Crypto Fund Matters*, FORTUNE (June 26, 2018), <http://fortune.com/2018/06/26/andreessen-horowitz-crypto-fund/>.

51. Alex Tapscott & Don Tapscott, *How Blockchain is Changing Finance*, HARV. BUS. REV. 1, 4-5 (Mar. 1, 2017), <https://hbr.org/2017/03/how-blockchain-is-changing-finance>; Kaal and Dell'Erba, *supra* note 27, at 13.

52. Hunfool, (2017年46家新VC杀入风投领域，你猜有几家为区块链烧钱)，BEIJING HUXIU INFO. TECH. CO. LTD. (Jan. 29, 2018), <https://www.huxiu.com/article/231491.html>.

53. See DHVC's homepage at: <http://dh.vc/home>, (last accessed Dec. 26, 2018).

54. Bei Er, *Half of the Blockchain Projects of DHVC Were Traded on Exchanges* (in Chinese: 丹华资本局：一年投43个区块链项目 半数上了交易所), SINA CORP. (Dec. 6, 2018), <https://finance.sina.cn/blockchain/2018-12-06/detail-ihmutuec6788226.d.html>

55. *Id.*

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manager in the venture capital fund and in the crypto fund. This raises questions as to whether the VC would allocate equivalent time and energy into the newly-established crypto fund, as compared to the other venture capital funds he/she manages. The GP may wish to dedicate their time to other avenues, such as deal sourcing for the other funds that they run.⁵⁶ Further, in making investments through the token fund, the GP may need to transfer crypto-assets from wallets to crypto-exchanges in order to make said investments. Such a practice, especially in periods of volatility, requires painstaking precision and active supervision by the token fund managers, which is exacerbated by round-the-clock trading hours of the crypto-markets.

Second, since holding crypto-assets is more liquid than holding shares in portfolio companies, the crypto fund may become short-term and volatile by nature. This goes against the long-term and patient nature of venture capital. Further, unlike traditional venture capital which contributes to the portfolio companies by adding non-financial value (through the VC's mentorship, expertise, and connections), venture capital has a limited role in adding value to crypto-asset startups. Indeed, allowing liquidity will mean that opportunistic and speculative investors may exit *en masse* in times of duress.

Third, crypto assets may be used as a means to defraud investors. Crypto fund managers may not have conducted sufficient due diligence on the crypto project given the rapidly-developing nature of the crypto industry, which can lead to losses suffered by crypto fund investors. Poorly performing crypto funds would also affect the reputation of the venture capital firm and ultimately affect its fundraising capacity in subsequent rounds.

Fourth, as crypto funds may comprise various types of crypto assets, valuation, accounting, and auditing of the crypto projects becomes problematic. While there may be rating services⁵⁷ available for cryptocurrencies, there are currently no widely accepted valuation principles or models governing virtual assets across the industry.⁵⁸ There are also no agreed standards on auditing the existence and ownership of virtual assets. Research analysts will have little

56. Lee Harris, *A Critical Theory of Private Equity*, 35(1) DEL. J. OF CORP. L. 259, 263 (2010).

57. For example, Weiss Ratings: <https://www.weisscryptocurrencyratings.com/>.

58. The major firms are currently attempting to develop new accounting methods which cater to crypto-assets. For example, PwC has suggested a fair value measurement model, with both realized and unrealized changes reflected currently in the income statement. See PwC, *Cryptocurrencies: Time to consider Plan B*, PwC (Mar. 6, 2018), <https://www.pwc.com/us/en/cfdirect/publications/point-of-view/cryptocurrency-bitcoin-accounting.html>; Similarly, KPMG has noted that as the crypto technology advances, it may not be clear how to apply accounting requirements to these transactions, and it may be necessary to evaluate the form and substance of the particular digital asset in question. See KPMG, *Blockchain and digital currencies challenge traditional accounting and reporting models*, KPMG (July 18, 2018), <https://frv.kpmg.us/content/dam/frv/en/pdfs/2018/defining-issues-18-13-blockchain.pdf>.

choice but to rely on Slack channels⁵⁹ or forums such as Reddit,⁶⁰ or follow websites with undisclosed track records to obtain market intelligence. In addition, VCs will have to equip themselves with data analysts and blockchain specialists to discern the inherently technical characteristics of crypto-assets (including the reviewing of source code).

Fifth, a typical venture capital fund pays the VC a management fee of 2% of the capital deployed to the fund, plus 20% of profits out of the investments – the so-called 2/20 rule. However, this rule cannot necessarily be applied to crypto-funds because it is difficult to accurately assess the profits from crypto investments (except when the investment is only in equity). Indeed, because crypto-assets do not have cash flow, applying any conventional metrics in analyzing the relevant crypto investments would be burdensome.

2. *Change in fund's strategy to crypto*

An existing venture capital fund may use its funding to invest in an existing crypto fund for crypto projects.⁶¹ Similarly, as newly-established crypto-funds, venture capital funds can capitalize on the exponential growth of the crypto-markets and benefit from early liquidity.⁶² The investment is carried out either on a secondary market, in the ICO, or as part of pre-sale at a discount.⁶³

However, a decision by the VCs to set up a crypto fund would likely require an amendment to the pre-existing Limited Partnership Agreement (LPA), and would have to be agreed to by the investors (who usually act as the limited partners (LPs) in the limited partnership-type venture capital fund). A failure to do so may result in breach of the mandate as prescribed by the LPA. Despite the lure of high potential reward (associated with high risk) that comes with crypto-assets, LPs may remain hesitant unless the secondary market is deep enough to offer sufficient liquidity.

Lastly, the inherent volatility of crypto-markets is against the nature of venture capital funds, which are structurally not devised to invest in volatile positions. In the United States, a “venture capital fund” is defined in SEC Rule 203(l)-1(a) as a private fund that meets certain conditions. The second condition requires that the fund: “[i]mmediately after the acquisition of any asset, other

59. For a list of Slack crypto communities, see <https://slofile.com/category/Crypto> (last accessed Dec. 26, 2018).

60. Reddit has several ‘subreddits’ relating to cryptocurrency, including for a separate ‘ subreddit’ for several specific cryptocurrencies. See REDDIT, <https://www.reddit.com/r/CryptoCurrency/> (last accessed Dec. 26, 2018).

61. See, e.g., Lightspeed Venture Partners, <https://lsvp.com/> (last accessed Dec. 26, 2018).

62. Kastelein, *supra* note 18.

63. Lightspeed Venture Partners has dedicated an earmarked pool of cash within its fund for crypto-investments. See Heather Somerville, *Success With Snap Helps Venture Firm Lightspeed Raise USD1.8 Billion for New Funds*, REUTERS (July 10, 2018), <https://www.reuters.com/article/us-lightspeed-investment/success-with-snap-helps-venture-firm-lightspeed-raise-1-8-billion-for-new-funds-idUSKBN1K01P2?il=0>.

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than qualifying investments or short-term holdings, [hold] no more than 20 percent of the amount of the fund’s aggregate capital contributions and uncalled committed capital in assets (other than short-term holdings) that are not qualifying investments, valued at cost or fair value, consistently applied by the fund” – the so called “20% rule.”⁶⁴ Therefore, as crypto-assets are liquid assets (if listed on crypto-exchanges or OTC), a venture capital fund is not entitled to hold more than 20% of their capital in assets that are liquid.⁶⁵ Given the fact that there is no established consensus on how crypto-assets are to be valued and the volatile value of cryptocurrencies, venture capital investing more than 20% of the fund’s assets in crypto-assets would make the legality of the fund very uncertain.

B. Tokenized venture fund

A tokenized venture fund is also commonly referred to as a “tokenized fund.” A tokenized fund is a newly-created structure that takes the ICO model and applies it to the ownership structure of the fund (see below diagram). It enables the venture capital fund to launch its own tokenized securities offering to raise funds from a larger pool of investors. In turn, investors in the fund can trade their equity tokens of the fund on a crypto-exchange, once the tokens are listed. The rationale behind a tokenized fund is to provide liquidity for investors and eliminate long-term capital commitments. In turn, this enlarges the pool of investors, as the fund’s token sale is akin to an equity crowdfunding.⁶⁶

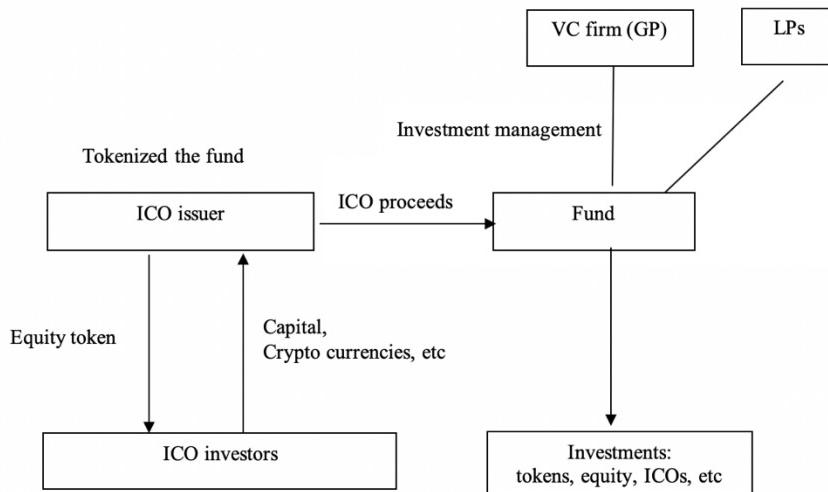
An illustrative example is EQUI, an open-ended tokenized venture fund with an internal crypto-exchange. It offers its investors both direct ownership units in the fund ('EquiUnits') and tokenized units ("EquiTokens").⁶⁷ The tokenized nature of the fund allows investors liquidity through the trading of the EquiTokens. The EquiToken is an ERC20 token built on the Ethereum platform and is expected to be freely tradable on security exchanges that list the token. The tokenized fund operates on an 80/20 split of profits on realized investments,

64. 17 C.F.R. § 275.203(l)-1(a)(2).

65. Jonathan Cardenas, *The rise of the crypto asset investment fund: An overview of the crypto fund ecosystem*, GLOBAL LEGAL INSIGHTS (2018), <https://www.globallegalinsights.com/practice-areas/blockchain-laws-and-regulations/12-the-rise-of-the-crypto-asset-investment-fund-an-overview-of-the-crypto-fund-ecosystem>.

66. The most prominent funds that have opted for the TVF structure include 500 Startups, Blockchain Capital, Lifesreda.VC and Starta Capital. 500 Startups operates a tokenised 22X Fund, which enables investors to purchase 22X tokens and own up to 10% equity in the fund’s portfolio companies. The tokens are liquid and token holders can trade their tokens after a year. See <https://www.22xfund.com/> (last accessed Dec. 26, 2018). Blockchain Capital conducted an ICO for its Blockchain Capital III Digital Liquid Venture Fund raising USD10 million in only six hours – the entity incorporated in Singapore. A hybrid model that utilized both tokenization and crowd investing models has been spearheaded by Starta Ventures for its Starta Accelerator fund. See ALEXEY GIRIN & EKATERINA DOROZHKOVA, HYBRID CAPITAL. THE FUTURE OF VENTURE IN THE ICO ERA: MARKET REPORT 2017 (2017).

67. EQUI, <https://equiglobal.com/how-it-works.html> (last accessed Dec. 26, 2018).



with 20% going to the EQUI fund managers and the balance reinvested back into the fund for the benefit of investors. Prior to the 80/20 split being made, 3% of profits are deducted for charitable purposes. Upon investment, the EQUI fund issues EquiUnits to the investors – which are stored on an internal fund register. If an investor wishes to realize his investment, the EquiUnits will be exchanged for EquiTokens. At all times, one EquiUnit will be exchangeable for one EquiTken. On conversion to an EquiTken, the former EquiUnit is burnt and ceases to exist. This creates the ultimate flexibility and liquidity of investment. EquiUnits are internal to the fund, while EquiTken are external to the fund.

A tokenized venture fund is akin to a publicly traded venture capital fund. If the tokens become tradable by being listed on a crypto-exchange (and/or outside the lock-up period), the equity tokens begin to resemble public venture capital firms, which in turn invites several commercial considerations or complications for the VCs. First, the continuous disclosure requirements (financial reporting, internal control compliance) imposed upon public VCs can be strenuous and often result in the fund being traded at a discount. Second, a wider set of public shareholders will alter the structure of the fund, as the voting control will be impacted by the introduction of public shareholders, and could potentially cause a misalignment of incentives as public markets tend to have a short-term focus as opposed to the long-term value creation by the GPs. These considerations suggest that entrepreneurs in the fund's portfolio would benefit when such fund avoided being subjected to continuous disclosure requirements and strict oversight of the public.

The second major concern is investor protection. The rationale behind tokenized funds is to democratize fundraising and open the fund to a larger scale of investors by allowing retail investors to participate. This may not be legally

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viable in all jurisdictions. For example, in the United States, venture capital funds are limited to raising capital from accredited investors in line with prescribed income or net worth requirements together with adequate know-your-customer (KYC) regulations.⁶⁸ Furthermore, if the internal crypto-exchange is unregulated, investors do not enjoy the protection afforded under the traditional securities law, such as requirements on custody of assets, transparency of the market, and the fitness and properness of the operators and managers.

C. Reverse ICOs

VCs may also exploit the liquidity of cryptocurrencies as a means of exit for venture capital investments. Thus, rather than waiting for the start-up to be able to conduct an IPO (or other conventional exit strategies),⁶⁹ VCs may engage in ‘reverse ICOs’ which will help them achieve a faster return, with the funds being subsequently recycled to the next project.⁷⁰ One example is Kik, a company that has raised over USD120 million through venture capital and subsequently conducted an ICO to raise USD100 million in 2017, rather than engage in an IPO.⁷¹ The reverse ICO is particularly popular for venture capital portfolios with ‘middle-performer’ companies and a solid customer base, but with little potential to either be acquired or go public.

A reverse ICO is said to offer better valuation for tech companies with a high product utility, but weak revenue model. These companies benefit from the token economics modifying their business model and attracting additional financing. Reverse ICOs are a new tool for VCs to exit from the portfolio companies but existing legal agreements in the venture capital sector will need to be revised to account for the possibility of reverse ICOs. Since a reverse ICO is a situation for which standard venture capital documents have not previously contemplated, terms relating to investor rights, effect on conversion events, liquidation

68. An interesting example here is the tokenised venture fund of Blockchain Capital, which was one of the first ones to conduct an ICO. Blockchain Capital has allegedly conducted an ICO for its Blockchain Capital III - Digital Liquid Venture Fund by distributing BCAP tokens (indirect fractional non-voting economic interest) among 99 accredited American investors and other 901 overseas investors. As for the U.S. investors, the tokens were offered under the exemptions from registration pursuant to Regulation D and Regulation S of the Securities Act 1993. The overseas investors are said to have not met any of the net worth requirements, but have passed KYC requirements. The funds raised amounted to 10-20 with USD500,000 per deal. See Laura Shin, *This VC Is Sure Venture Capital Is About To Be Disrupted*, FORBES (Apr. 18, 2017), <https://www.forbes.com/sites/laurashin/2017/04/18/this-vc-is-sure-venture-capital-is-about-to-be-disrupted/#5876be6e324e>.

69. See *supra* text accompanying note 34.

70. Kaal & Dell'Erba, *supra* note 27, at 13; Wulf A. Kaal, *Initial Coin Offerings: The Top 25 Jurisdictions and Their Comparative Regulatory Responses*, CODEX STAN.J. OF BLOCKCHAIN L. & POL. 1,2 (2018).

71. Edmund Mokhtarian & Alexander Lindgren, *Rise of the Crypto Hedge Fund Operational Issues and Best Practices for an Emergent Investment Industry* (Oct. 19 2017), STAN. J. L., BUS., & FIN. (forthcoming), at 8, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3055979.

preference or anti-dilution protection would have to be addressed in the reverse ICO scenario.

In situations where venture capital funds or VCs do not exercise control over the company's board, it is unclear whether they have protective rights under a Certificate of Incorporation or whether they are in a position to prevent the company pursuing a reverse ICO. A reverse ICO may become a diluting event if a company decides to issue equity tokens after an IPO.⁷² The main concern here is with the existing equity investors who need to ensure that the ICO does not dilute their existing interest, impact the valuation of the underlying business or effect the pre-existing exit strategy. As for liquidation preferences, the equity tokens will be governed under the insolvency provisions, in which case investors who can be construed as unsecured creditors would be in a better position to recover their initial investments as compared to shareholders. The priority waterfall of claims will apply. For the purpose of legal clarity, the documentation should prescribe the position of priority which token holders stand in the event of liquidation.

If valuation of equity tokens are low, then it is likely that a large proportion of equity tokens are issued through the ICO.⁷³ For entrepreneurs pursuing a reverse ICO, this would mean that the entrepreneur would lose control of the company (unless he retains a majority of the tokens at the expense of raising more capital). While it is true that these tokens will typically be dispersed, given that tokens are tradable on crypto-to-crypto exchanges such as Binance, it may be possible for parties to accumulate sufficient tokens (if the tokens had voting rights) to take over the company. By contrast, VCs typically provide the entrepreneurs a call option on control, such that in the event of an IPO, control of the start-up will re-vest in the entrepreneur.⁷⁴

Linked to the loss of control is also a risk of dilution. Contrary to the oft-stated claim that ICOs do not dilute the underlying equity of the ICO issuer, the opposite is true and a consideration of a possible dilution may come into play, depending on how the ICO is structured. A token issue may indeed take nominal value out of the company, which in turn may have an impact on the term sheet. Traditionally, venture capital funds are protected from dilution through contractual mechanisms such as pre-emptive rights or other anti-dilution provisions.

Another possible risk that relates to reverse ICOs is the mismanagement of the funds raised. ICOs are known for raising astronomical sums, usually unheard of at the seed stage in the traditional venture capital setting. As a result,

72. This would be the case if the equity tokens issued would have voting rights or dividends rights attached to them.

73. Chen, *supra* note 36, at 9.

74. Bernard S. Black & Ronald J. Gilson, *Does Venture Capital Require an Active Stock Market?*, 11(4) J. APP. CORP. FIN. 36, 43-44 (1999).

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inexperienced funders gain quick access to overwhelming liquidity without the traditional venture capital guidance. Thus, the ICO, being an early-liquidity event, creates a risk of mismanagement of funds prior to the product/service being developed. By contrast, in traditional venture capital, staged financing serves the purpose of gathering information on the progress of portfolio companies and monitoring their performance before the next financing round and creates an exit option for VCs.⁷⁵ In the context of single-affair ICOs, stage financing is not applicable and there is little oversight over the performance and development of the product or service.

As a result, considerations as to the effect of liquidity and volatility of the crypto-markets should be reflected on the investment mechanism or structure that is better suited to offer LPs legal protection. The fundraisers (entrepreneurs) will be concerned with the management of the raised funds and crypto-volatility as the funds raised will often be denominated in some form of cryptocurrency. Entrepreneurs will likely encounter an issue with their token models, which may prove to be unsuitable for product adoption and traction.

D. Investment in other crypto funds (fund of funds structure)

This process involves a venture capital fund setting up a crypto-fund to invest in other crypto-specific funds. This allows for greater risk diversification by investing in a multiple of funds simultaneously. As an example, Union Square Ventures (USV) has invested in six token funds, giving USV a broader reach across the crypto-sector. This approach is often a response by funds not to overexpose themselves to the crypto-markets and instead take a network approach.⁷⁶

On the one hand, a fund of funds structure enables broader diversification.⁷⁷ Nevertheless, the fund is not an equity owner of the portfolio of start-ups, instead it only has partial ownership of the funds' ownership of start-ups. Attention here should be placed on the control rights, especially in situations where the start-ups have a poor performance and the venture capital fund cannot intervene.⁷⁸

E. Other hybrid models

There are a number of hybrid models that venture capital firms are currently experimenting with, the majority of which goes unreported as part of the funds' proprietary information. These include the ICO seed round and seed + A series + ICO model. The ICO seed round is a model where the ICO fundraising

75. Susheng Wang & Hailian Zhou, *Staged Financing in Venture Capital: More Hazard and Risks*, 10 J. CORP. FIN. 132 (2004).

76. Fred Wilson, *Investing In Token Focused Funds*, UNION SQUARE VENTURES (June 20, 2018), <https://www.usv.com/blog/investing-in-token-focused-funds>.

77. Schleifer, *Why Are Big VCs Opening Up Crypto Funds?*, *supra* note 47.

78. *Id.*

structure is used at the seed stage and the later rounds follow the traditional equity issuing structure. This structure segments the two types of funding, while bootstrapping the network with users and raising enough funds to provide for the 2-3 year development. The Seed + A series + ICO model is the reverse of the ICO seed round. The initial seed funding is followed either by further A series or an ICO after proofing the business concept. In other words, crowd support follows and complements the smart money. One criticism of these hybrid models involves the conflation of venture capital rounds and crypto investing. Indeed, the subject has to be approached carefully since it is questionable whether one can equate the milestone-based rounds, which have a strong precedent and have been tested, with crypto crowdfunding rounds, which are not limited by the quantitative rounds as traditionally conceived.

III. RISKS IN THE EVOLVING MARKET

Investments in crypto-assets, ICOs and blockchain tech start-ups carry risks associated with early-stage start-ups. The following part highlights the most relevant risks associated with this asset class.

A. *Extreme uncertainty, agency costs and information asymmetry*

Gilson has noted that in venture capital investments, given the early-stage, high technology nature of investments, information asymmetry is extreme.⁷⁹ This is particularly the case in crypto-assets because they are a new asset class and blockchain technology' companies are complex in their functional nature. As discussed earlier,⁸⁰ the information asymmetry in ICOs is more extreme than that the information asymmetry in the context of venture capital. In ICOs, such information asymmetry must be at its zenith since ICOs typically occur at an even earlier stage and crypto investors often have nothing more to go on than the whitepaper published by the start-up.⁸¹ This provides fertile ground for the entrepreneur to engage in opportunistic behaviour or even outright fraud.⁸²

In a limited partnership-type crypto fund, LPs likely have less on the target acquisitions and in turn, LPs will have to place more trust in the GPs' investment decision-making.⁸³ This creates a situation where traditional agency costs are

79. Gilson, *supra* note 34, at 1076.

80. See *supra* text accompanying notes 36-42.

81. Chen, *supra* note 36, at 7.

82. Examples include the REcoin and Diamond Reserve Club ICO frauds. See SEC, *supra* note 37.

83. Investors that choose to become LPs to a crypto-fund may well be advised to consider their positions and protect themselves through a careful contractual design. Apart from the risks associated with ICOs and crypto-assets, LPs should consider the impact of liquidity, volatility, the spread of risk and agency costs on their positions taken within the fund. Risk management is particularly relevant with regards to investments in ICOs and crypto-assets, as many countries do not currently offer institutional protection for investors. As a result, considerations as to the effect of liquidity and volatility of the crypto-

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more severe in the context of crypto funds. Agency problems operate in this context on two levels: the LP-GP level and the venture capital fund-portfolio companies' level. On a basic level, investors expect GPs to carry out their management duties with the aim of maximizing returns on their investment, whereas GPs may be motivated by self-interest and may use the legal nature of the limited partnership for managerial abuse. Managerial abuse is the result of LPs (the principal) ceding control to GPs (the agent), whereas LPs are not allowed to participate in the management of the firm under the law of partnership.⁸⁴

GPs may have side-line agreements either with parent companies issuing the purchased tokens or with crypto-exchanges offering insider information on future trading of tokens of the tokenized funds. In addition, GPs may engage in opportunistic behavior and maximize the carried interest at the expense of the long-term interests of LPs, misuse the raised funds, or engage in risky investments outside their stipulated mandate.⁸⁵ Furthermore, the inability of LPs to evaluate the riskiness of investments and their reliance on GPs' unilateral valuation are amplified in the context of crypto-assets as VCs are still in the process of developing valuation models for this new asset class.

On a secondary level, the GPs' objectives may not be aligned with those of the entrepreneurs. Traditionally, the portfolio companies would be subject to a number of negative covenants imposed contractually that require prior approval on important business decisions.⁸⁶ In the crypto-context, the matters are exacerbated by the different nature of the asset class in question. If the venture capital fund invests in crypto-assets – it has no contractual powers over the issuers of such crypto-assets and is therefore not in a position to influence the management of their business, which in turn may severely impact the crypto-asset's value.

Further, most of the ICO whitepapers are very preliminary and the projects do not disclose sufficient information.⁸⁷ Thus, it is difficult to conduct due diligence or risk management given the serious information asymmetry between the investors and the entrepreneurs.⁸⁸ There is also no accepted method for

markets should be reflected on the investment mechanism/structure that is better suited to offer LPs legal protection.

84. See Lin, *supra* note 38; Lin, *supra* note 42 at 201-02.

85. While the GPs are generally contractually required to disclose information to LPs, most limited partnership agreements do not provide the LPs with sufficient rights to access information. See Julia Khort, *Protection of Private Equity Fund Investors in the EU*, 12 EUR. CO. L. 97 (2015). https://www.jur.uu.se/digitalAssets/585/c_585476-l_3-k_wps2014-6.pdf.

86. See Gilson, *supra* note 34.

87. Interview with Mr. Lin, a venture capitalist based in Singapore (Singapore, Nov. 27, 2018); telephone interview with Mr. Tian, a venture capitalist based in China (Dec. 10, 2018) (anonymity required).

88. Chod & Lyandres, *supra* note 28, at 1.

evaluating and auditing crypto-assets,⁸⁹ which exposes investors and consumers to high risk. For instance, entrepreneurs may take advantage of the lack of a consistent and transparent approach to audit cryptocurrencies to exaggerate the prospects of the project to attract financing from VC funds. This is possible because at the ICO stage, there is no working product and the VCs will be relying on the whitepapers published by the entrepreneurs. At the same time, the GPs may also use this lack of transparency to manipulate the value of crypto-projects to hide the true extent of profits from investors.

B. Regulatory Uncertainty

Parties, including VCs, investors and entrepreneurs in the crypto space often face significant difficulties in understanding the regulatory framework in which they must operate, the regulations that apply to them and how to ensure compliance with them.⁹⁰ There is a wide gap in the understanding and expectations that regulatory authorities and participants have of one another. Regulatory uncertainty further increases the transaction costs and disincentivizes parties from entering the market.

Regulatory uncertainty exposes entrepreneurs to a “black swan risk,” which refers to the possibility of an unexpected event exposing the entrepreneur to market risk.⁹¹ The ICO market’s exposure to black swan risk is magnified by the concentration of crypto-exchanges and crypto-enthusiasts in particular jurisdictions. For example, in 2017, the Chinese government prohibited the trading of cryptocurrencies and the issuance of crypto-assets with a major impact on cryptocurrency prices.⁹²

C. Cybersecurity

VCs that are invested in the crypto projects may opt for different forms of specialized custodian solutions, which will differ in the level of security they offer and may become easier targets to hacking and other cyber-attacks.⁹³ Cyber-attacks may also comprise the hacking of crypto-asset trading platforms,⁹⁴ and victims may have difficulty recovering losses from hackers or trading

89. See Cohn et al., *supra* note 5.

90. UNSGSA FINTECH WORKING GRP. AND CCAF, *Regulatory Innovations to Enable Inclusive FinTech: Early Lessons Learned from Innovation Offices, Regulatory Sandboxes, and RegTech*, OFF. UNSGSA & CCAF (2019).

91. NASSIM NICHOLAS TALEB, THE BLACK SWAN: THE IMPACT OF THE HIGHLY IMPROBABLE (2017).

92. Kenneth Rapoza, *Crypto Currency Exchanges Officially Dead in China*, FORBES MAG. (Nov. 2, 2017), <https://www.forbes.com/sites/kenrapoza/2017/11/02/cryptocurrency-exchanges-officially-dead-in-china/#5ab007822a83>.

93. See *infra* notes 101-02.

94. *Supra* SECURITIES & FUTURES COMMISSION, note 9.

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platforms.⁹⁵ Due to the limited availability of qualified custodian solutions, crypto-asset funds face a unique challenge.⁹⁶

IV. THE WAY FORWARD

In light of the discussed problems and the risks to contracting parties in the venture capital-ICO landscape, the next section considers a number of arrangements along the lines of either mandatory compliance through government regulations or private ordering.

A. *Contractual protection*

In theory, smart contracts can serve as substitutes for the traditional legal frameworks and embed contractual protection for investors. Some examples of possible contractual protection for investors include restrictions on the supply of ICO tokens and restrictions on the transfer of tokens by insiders.⁹⁷ These protections are generally mentioned in the ICO's whitepaper and given effect to by being written into the underlying code of the project. In practice, the opposite is true. An empirical study shows that despite these promises, "ICO code often fails to deliver key investor protections, and sometimes provides founders with significant, undisclosed authority to alter investor rights."⁹⁸

Furthermore, traditional contractual mechanisms which alleviate the agency costs between the VC fund and the portfolio company are also less effective in the crypto-asset context. For instance, mechanisms such as staged financing and disproportionate control rights used in traditional VC contracts with portfolio companies⁹⁹ are not readily transferable to crypto projects. Indeed, as ICOs tend to be a one-time affair, staged financing mechanisms are thus inapplicable. Similarly, ICO investors do not have such disproportionate control rights in the invested projects, thus leading to increased agency costs.

As a result, VCs need new structures in the context of investing in tokens. There are a number of contractual frameworks that the fund may opt for, depending on its commercial needs and the particulars of the start-up's token model.

The first option is straight-forward - invest in tokens and equity through two separate transactions. The second, more traditional, option is to buy equity through a Simple Agreement for Future Equity (SAFE), which in nature resembles a convertible note, but does not accrue interest or have a maturity date.

95. *Id.*

96. *Id.*

97. David Hoffman, *Regulating Initial Coin Offerings (ICOs)*, U. PENN 3-4 (Oct. 2018), <https://publicpolicy.wharton.upenn.edu/live/files/303-a>.

98. *Id.* at 4.

99. Gilson, *supra* note 34, at 1078-87.

With SAFE, the blockchain start-up will provide rights to the investor for future equity upon pre-determined triggering events, without a price per share indication. Simple in form, the SAFE contract lacks investor protection guarantees that would normally be provided by a convertible note.

The third alternative is to use a Simple Agreement for Future Tokens (SAFT), which is an investment instrument designed to fit the needs of VCs investing in ICO pre-sales.¹⁰⁰ The SAFT framework was specifically designed in line with U.S. securities regulations.¹⁰¹ SAFT was published as a whitepaper by law firm Cooley LLP and Protocol Labs as a self-regulatory legal document designed for accredited investors. The SAFT contract is treated as an investment contract that relies on the exemption from registration of securities, hinging on the expectation that once the crypto-assets are issued, they will not be legally treated as securities.¹⁰² Cooley LLP's case for SAFT's compliance rests on the reasoning that pre-functional utility tokens are vulnerable to being treated as securities, while a functional token is less so. To satisfy the *Howey* test for establishing whether a crypto-asset is a security, SAFT focuses on one key factor: functionality.¹⁰³ Investors should be aware that a common criticism of SAFT is that its proponents are relying on an expectation that the future tokens will be characterized by the regulators as utility tokens.¹⁰⁴ A mere reliance on an exemption pre-token development does not guarantee investors that the tokens will not constitute securities upon issuance.

The fourth contracting alternative is a pre-sale instrument referred to as a Simple Agreement for Future Tokens or Equity (SAFTE), which gives the investors the option to convert to equity and, or tokens. This is a more flexible structuring which is capable of accounting for situations where there is a token sale in the future, with or without the investor having had received prior equity. SAFTE agreements may be preferable to investors as it circumvents cumbersome negotiation of terms and instead allows for an early agreement closing. Secondly, it offers a contractual buffer to investors in instances when the promised ICO does not materialize and the investor may still have a right to equity in the company instead. Alex Lindgren compares the SAFTE to a gross mining

100. See 'The SAFT Project', <https://saftproject.com/> (last accessed Dec. 26, 2018). The SAFT contracts have been modelled akin to the Simple Agreement for Future Equity (SAFE) contracts used in the start-up sector.

101. Investors in other jurisdictions need to be aware that SAFT may not be legally recognized in the same manner as in the U.S. or given the promised level of legal protection.

102. Juan Batiz-Benet et al., *The SAFT Project: Toward a Compliant Token Sale Framework*, SAFT PROJECT (Oct. 2, 2017), <https://saftproject.com/static/SAFT-Project-Whitepaper.pdf>.

103. SEC v. W. J. Howey Co., 328 U.S. 293 (1946).

104. For a comprehensive analysis and critique of the SAFT, see CARDOZO BLOCKCHAIN PROJECT, *Not so fast – risks related to the use of a 'SAFT' for token sales*, BENJAMIN N. CARDOZO SCH. L. (Nov. 21, 2017), https://cardozo.yu.edu/sites/default/files/Cardozo%20Blockchain%20Project%20-%20Not%20So%20Fast%20-%20SAFT%20Response_final.pdf. The authors are correct in pointing out that the SAFT framework does not work for tokens which can be classified as securities and is over-reliant on the pre-sale token being classified as a utility token.

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production royalty right, which is dischargeable in the agreed commodity, but simultaneously secured with a conversion right to equity in the mining property.¹⁰⁵

In addition, prior to the purchase of tokens, VCs should be advised to screen the profile and trading history of said tokens to ensure that they have not been used as a medium for illegal activities. Third party tracing analytics can be employed for this purpose.

B. Reputation

The enhancement of reputational safeguards is one social control measure in high-risk investments. In the venture capital context, reputational safeguards have been used to reassure investors of the quality of the portfolio companies. Specifically, VCs stake their reputation on the success of their investments – the ability to raise funds creates a track record for the fund performance and is used as an external metric. This may be contrasted to ICOs, which are one-off liquidity events that are for the most part devoid of reputational constraints.

As it stands, the reputation mechanism is of doubtful effectiveness in the ICO sphere. Indeed, an empirical analysis conducted by Rhue, which extracts data from websites which rate ICOs based on ‘reputation measures’ such as ICO Drops, Etherscan, and ICO Rating, showed that the measures of reputation on these ICO listing services were inconsistent and lacking in coverage.¹⁰⁶ None of the platforms had full coverage of all the ICOs available on their site, though ICO Drops and Etherscan provided some reputation score for the majority of cryptocurrencies.¹⁰⁷ Furthermore, the most common reputation score for all the sites is neutral, which is arguably not very informative for investors.¹⁰⁸ There was also inconsistency insofar as the same cryptocurrency or ICO may be given different reputation ratings by different websites.¹⁰⁹ Further, the empirical data also revealed that the reputation scores are not necessarily predictive of the actual success outcomes, which further undermines the reliability of such reputational ratings. However, in a separate article,¹¹⁰ empirical study found that support from a crowd of online analysts can predict long-run token performance in secondary markets for ICO tokens.¹¹¹ Thus, this paper argues that decentralized analysts’

105. Alex Lindgren, *Getting to SAFTE: Updating Best Practices for Token Offerings in the Wake of Changing Regulation*, MEDIUM (Mar. 3, 2018), https://medium.com/@Alex_LLOYLaw/getting-to-safte-updating-best-practices-for-token-offerings-in-the-wake-of-changing-regulation-f965ea7945c9.

106. Lauren Rhue, *Trust is All You Need: An Empirical Exploration of Initial Coin Offerings (ICOs) and ICO Reputation Scores*, SSRN (May 16, 2018), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3179723.

107. *Id.* at 22.

108. *Id.*

109. *Id.* at 23.

110. Jongsub Lee et al., *The Wisdom of Crowds in FinTech: Evidence from Initial Coin Offerings*, SSRN (Sept. 1, 2018), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3195877.

111. *Id.* at 31.

opinions appear to mitigate information asymmetry and predict profitable investments in the long run.¹¹² It should also be noted that the effectiveness of reputation varies from place to place, depending on the legal infrastructure of the jurisdiction and area. For instance, while the reputation mechanism has been argued to be effective in the US,¹¹³ it has been observed that the same may not hold true in China due to the absence of a well-established national credit system and the fact that investors are more likely to be motivated by issues beyond the reputation of general partners, like local tax incentives, local legislations, political pressure and local economic development plans.¹¹⁴

C. Insurance

Separately, the availability of insurance may also mitigate the risks from ICOs and investment in crypto-assets. Presently, there is some insurance available for their loss or theft,¹¹⁵ which may go some ways to alleviating the cybersecurity risks surrounding crypto currencies such as hacking. Nevertheless, the insurance market for crypto is still in a nascent stage, with many traditional insurers being reluctant to provide coverage given the high risks involved, including fraud, money laundering, and financial crime. This is likely exacerbated by the difficulty in calculating the premiums for such polices given the numerous risks involved and the rapidly changing nature of the technology. Indeed, there are reportedly only a handful of D&O policies available in the crypto space.¹¹⁶

D. Custodian solutions

One of the most oft-stated worries on the part of VCs relates to the method of storing crypto-assets. Traditionally, VCs will use third party “qualified custodians,” such as banks, to hold their clients’ assets. This role relies on the assumption that banks are secure and impartial. In the crypto-context, the VCs will hold the private and public keys associated with crypto-assets.¹¹⁷ The risk of

112. *Id.* at 4.

113. Gilson, *supra* note 34, 1086-87.

114. Lin, *supra* note 42, at 213-14.

115. BUS. TIMES, *Crypto insurance: the hot new business with fat premiums, high underwriting risks*, BUS. TIMES (July 21, 2018), <https://www.businesstimes.com.sg/investing-wealth/crypto-insurance-the-hot-new-business-with-fat-premiums-high-underwriting-risks>; Suzanne Barlyn, *Insurers Begin to Offer Cryptocurrency Theft Cover, Tackling Risks of Growing Sector*, INS. J. (Feb. 1, 2018), <https://www.insurancejournal.com/news/international/2018/02/01/479202.htm>.

116. Nicholas Berry & Charlotte Rowlandson, *Insurance of crypto assets and businesses – who will fill the crypto economy protection gap?* NORTON ROSE FULBRIGHT (Apr. 2018), <http://www.nortonrosefulbright.com/knowledge/publications/166642/insurance-of-crypto-assets-and-businesses-who-will-fill-the-crypto-economy-protection-gap>.

117. As the owner of the wallet, the investor will have a set of private keys (a secure digital code known only to the user - whoever has access to an address’ private key controls the coins or tokens inside it) and public keys (a public digital code connected to a certain number of tokens), which will enable him

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holding the private keys which grants one access to the crypto-asset is theft or other misuse. VCs are currently contemplating on the most secure way to store crypto-assets to suit the needs of institutional investors as well. VCs will either need to rely on a licensed and insured depository or store the keys in a cold storage.¹¹⁸

E. Escrow accounts

It has been suggested that adopting measures to regulate the control of the raised funds would be useful to protect investors. This would involve having predefined authorised holders, such as a wallet account in the ICO company's name or an escrow arrangement, as opposed to having the ICO issuers hold the funds raised in their own private wallets which facilitates fraud.¹¹⁹ Similarly, Rodrigues suggests that a nuanced escrow arrangement which imposes additional conditions such as tying up founders' tokens for a certain period may be useful. For example, the ICO issuer could hold back a portion of the proceeds until it was clear that there was no fraud in the initial disclosures, and that the ICO issuer made good on promised developments.¹²⁰ Related to escrow arrangement is the possibility of having a 'lock-up' period for the ICO tokens, especially for insiders or those privy to the pre-sale. Preventing these insiders who have access to pre-sale of the ICO tokens (which would usually be at a lower price) from selling to the public once the ICO is open to the public reduces the likelihood of 'pump-and-dump' schemes occurring.¹²¹ There is also an agency problem as the VC may misuse the funding in the account for his own interests.

F. Regulatory Responses

The crypto economy has thus far been characterized by a volatile market due to the presence of extreme uncertainty, information asymmetry and agency costs. Hence, the exponential growth of the crypto economy has brought with it persistent investor risks. In response, market regulators across the globe have developed various measures, including: (1) regulatory warnings or guidance, (2)

to send and receive coins/tokens. The keys are necessary for an interaction for the purpose of transferring and receiving purchased tokens.

118. The difference between a hot and cold storage lies in whether it can be accessed through the Internet. If it can, it is a form of hot storage, and vice versa. The storage of crypto-assets does not refer to actual storage of them, but instead to the storage of private keys that allow the investor to sell the tokens to another holder.

119. Eduardo da Cruz Rodrigues e Silva, *Legal framework of initial coin offerings* (2018) (Master Thesis, Tallinn University of Technology) at 52.

120. Usha Rodrigues, *Semi-Public Offerings? Pushing the Boundaries of Securities Law*, SSRN 21-22 (Aug. 31, 2018), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3242205.

121. Lucas Mikael Palm & Øystein Bergeisen, *An exploratory study of Initial Coin Offerings*, U. AGDER FACULTY OF BUS. & L. DEPT. ECON & FIN. 38-39 (2018), <https://brage.bibsys.no/xmlui/bitstream/handle/11250/2561890/Bergeisen%2C%20C3%98ystein%20g%20Palm%2C%20Lucas%20Mikael.pdf?sequence=1>.

regulatory sandboxes or exceptive relief applications, (3) statutory reforms or rule-making and (4) enforcement actions. It is suggested that more can and should be done to provide a clear regulatory framework. The lack of such a framework adds further uncertainty to the market. A clear regulatory framework aimed at increasing investor or consumer protection, data protection and cyber security would have a positive impact to the ecosystem of the crypto economy.

Regulatory efforts thus far have varied across different jurisdictions. The approach adopted towards investor protection varies according to the regulatory remit, the scale and impact of activity in the crypto economy, and whether virtual assets are deemed financial products suitable for regulation.¹²²

Regulators take different regulatory positions regarding (1) crypto-assets (for example, Bitcoin and Ethereum), (2) ICOs, (3) crypto-exchanges, and (4) crypto investment funds and fund managers. A number of regulatory statements and warnings have been issued on the above issues. For example, the U.S. Securities and Exchange Commission (SEC),¹²³ the Financial Industry Regulatory Authority (FINRA),¹²⁴ the North American Securities Administrators Association (NASAA),¹²⁵ the Financial Conduct Authority (FCA)¹²⁶ and the Monetary Authority of Singapore (MAS)¹²⁷ have recently issued a large number of statements and warnings on cryptocurrencies, ICOs and crypto currency enforcement actions recently.

The challenge posed to the financial regulator is related to the difficulty in developing (or acquiring) the requisite depth of knowledge of the tech space to inform sound policymaking and to keep pace with the fast-advancing blockchain

122. SEC, *supra* note 9.

123. On Dec. 11, 2017, SEC issued a Statement on Cryptocurrencies and Initial Coin Offerings (SEC Chairman Jay Clayton); on Jan. 19, 2018, SEC and CFTC issued a Joint statement on Directors of Enforcement on virtual currency enforcement actions; on Jan. 22, 2018, SEC Chairman issued warning to companies that change their name to incorporate bitcoin or blockchain; on Jan 24, 2018, SEC / CFTC Chairs issued Wall Street Journal op-ed that they are closely monitoring cryptocurrency activities; will take action when warranted; on Mar. 7, 2018 – SEC Statement on Potentially Unlawful Online Platforms for Trading Digital Assets; on Nov. 16, 2018, SEC issued a Statement on digital asset securities issuance and trading.

124. On Aug. 31, 2017, FINRA issued a statement on “Initial Coin Offerings: Know Before You Invest”; on Dec. 21, 2017, FINRA issued a warning titled “FINRA Warns Investors: Don’t Fall for Cryptocurrency-Related Stock Scams”.

125. On Jan. 4, 2018, NASAA issued a Statement regarding approaching cryptocurrencies, ICOs and other crypto-related investment products with caution (SEC companion statement).

126. On Sept. 12 2017, the FCA issued a statement on “Consumer warning about the risks of Initial Coin Offerings”; On Nov. 14, 2017, the FCA issued a consumer warning about the risk of investing in cryptocurrency CFDs.

127. On January 24, 2019, the Monetary Authority of Singapore (MAS) has warned an initial coin offering (ICO) issuer not to proceed with its securities token offering in Singapore until it can fully comply with regulatory requirements under the Securities and Futures Act (SFA). See MAS halts Securities Token Offering for Regulatory Breach, <http://www.mas.gov.sg/News-and-Publications/Media-Releases/2019/MAS-halts-Securities-Token-Offering-for-regulatory-breach.aspx>

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space.¹²⁸ *United States of America v. Ross William Ulbricht* is an example that indicates the difficulties for the Federal Bureau of Investigation to trace the identities of the sellers and the buyers in the case.¹²⁹

In developing a regulatory framework, it is key that regulators develop the requisite technical knowledge and engage deeply with practitioners in the market. Any regulatory decision, and even the lack of one, can deeply impact the crypto economy. On the other hand, heavy-handed approaches may kill the domestic market and drive trading to other jurisdictions.¹³⁰ As seen from these examples, the regulatory approach adopted has great potential to impact the market. In light of the extreme volatility and risks found in the crypto economy, actions by regulatory authorities will help to level the playing field and guide the market away from speculative bubbles and towards sustainable growth.

1. Regulation of ICOs

The lack of a regulatory framework governing ICOs leaves investors particularly vulnerable. Investors in an IPO are protected under the framework of corporate law, stock exchange listing requirements, corporate governance codes, and market institutions and legal institutions,¹³¹ and those involved in crowdfunding are, at the very least, somewhat protected through the review of the project by a (usually registered) crowdfunding platform. In comparison, there is no comparable regulation in the context of ICOs.

As alluded to earlier, the regulatory responses to ICOs differ from country to country. Ultimately, it is suggested that regulators should seek to balance between encouraging entrepreneurship (by permitting ICOs) and protecting retail investors (and perhaps also maintaining financial stability). The point at which this balance is struck will inevitably turn on the socio-economic policy of each jurisdiction. On one hand, ICOs allow entrepreneurs without connection to early stage investors or those situated in areas where venture capital is not active to have access to financing.¹³² On the other hand, there is substantial risk of fraud and abuse of retail investors due to the lack of transparency associated with ICOs. This has prompted some heavy-handed regulatory response, such as those taken

128. *United States of America v. Ross William Ulbricht*, 858 F.3d 71 (2d Cir. 2017), is an example that indicates the difficulties for the Federal Bureau of Investigation to trace the identities of the sellers and the buyers in the case.

129. Hui Deng et al., *The Regulation of Initial Coin Offerings in China: Problems, Prognoses and Prospects* (Sept. 7, 2018), EURO. BUS. ORG. L. REV. (forthcoming), <https://ssrn.com/abstract=3245875>.

130. Sam King & Kanga Kong, *Crypto Trading Ban Downplayed by South Korea After Backlash*, BLOOMBERG (Feb. 14, 2018), <https://www.bloomberg.com/news/articles/2018-02-14/crypto-trading-ban-downplayed-by-south-korea-after-backlash>.

131. See Bernard S. Black, *The Legal and Institutional Preconditions for Strong Securities Markets*, 48 UCLA L. REV. 781 (2001).

132. Randolph Robinson, *The New Digital Wild West: Regulating the Explosion of Initial Coin Offerings* (Sept. 1, 2017), TENN. L. REV. 27-28 (forthcoming), <https://ssrn.com/abstract=3087541> or <http://dx.doi.org/10.2139/ssrn.308754>.

in China and South Korea, where ICOs have been banned.¹³³ By contrast, countries like Singapore¹³⁴ and the U.S.¹³⁵ have adopted a case-by-case approach to determining whether the specific ICO token constitute securities under the relevant securities law, whereby the designation as securities would result in the subjection of the token to the same regulatory regime as traditional securities.

Nevertheless, as a practical matter, it is doubtful how much regulators can regulate ICOs. Given that many ICOs are not limited by traditional state borders and are decentralised in nature, it would be difficult to determine a lead regulatory agency.¹³⁶ Further, it is doubtful that local regulators will be able to extend their regulatory reach to ICOs that take place overseas but remain available to local investors. Whether and how best to manage risks arising in ICOs through regulatory measures has already been explored by several authors.¹³⁷ Hence, the following section focuses instead on the regulation of venture capital funds investing in crypto-assets.

2. Regulation of crypto-focused funds

The major regulatory concerns around crypto-centric funds are the valuation and custody of crypto-assets. The value of crypto-assets is uncertain given the volatile nature of the crypto market. Furthermore, the accounting profession does not agree as to how such assets should be valued.¹³⁸ With regard to the custody of assets, the problem of hacking has been discussed above.

133. Philipp Hacker & Chris Thomale, *Crypto-Securities Regulation: ICOs, Token Sales and Cryptocurrencies under EU Financial Law*, SSRN 6 (Nov. 22, 2017), <https://ssrn.com/abstract=3075820>.

134. See Monetary Authority of Singapore, *A guide to Digital Token Offerings*, MONETARY AUTHORITY SING. (2017), <http://www.mas.gov.sg/~media/MAS/Regulations%20and%20Financial%20Stability/Regulations%20Guidance%20and%20Licensing/Securities%20Futures%20and%20Fund%20Management/Regulations%20Guidance%20and%20Licensing/Guidelines/A%20Guide%20to%20Digital%20Token%20Offerings%20%2014%20Nov%202017.pdf>.

135. See SEC, *Report of Investigation Pursuant to Section 21(a) of the Securities Exchange Act of 1934: The DAO*, SEC (25 July, 2017), <https://www.sec.gov/litigation/investreport/34-81207.pdf>.

136. Zetzche, *supra* note 27, at 41.

137. Hacker & Thomale and Barsan offer an analysis of digital tokens and ICOs from a legal perspective of EU securities regulation. See Hacker & Thomale, *supra* note 133; and Iris M. Barsan, *Legal Challenges of Initial Coin Offerings (ICO)*, SSRN (Nov. 2, 2017), <https://ssrn.com/abstract=3064397>; see also Philipp Maume & Mathias Fromberger, *Regulation of Initial Coin Offerings: Reconciling US and EU Securities Laws*, SSRN (June 15, 2018), <https://ssrn.com/abstract=3200037>. Rohr & Wright offer a deep insight into the applicability of US securities regulation to ICOs. See Jonathan Rohr & Aaron Wright, *Blockchain-Based Token Sales, Initial Coin Offerings, and the Democratization of Public Capital Markets*, SSRN (Oct. 4, 2017), <https://ssrn.com/abstract=3048104>. See also Lawrence J. Trautman, *Bitcoin, Virtual Currencies, and the Struggle of Law and Regulation to Keep Pace* (May 30, 2018), MARQ. L. REV. (forthcoming), <https://ssrn.com/abstract=3182867>.

138. See SEC, *Appendix 1 - Regulatory standards for licensed corporations managing virtual asset portfolios*, H.K. SECURITIES & FUTURES COMMISSION (Nov. 1, 2018), https://www.sfc.hk/web/EN/files/ER/PDF/App%201%20-%20Reg%20standards%20for%20VAs%20portfolio%20mngs_eng.pdf; SECURITIES & FUTURES COMMISSION, *Appendix 2 - Conceptual framework for the potential regulation of virtual asset trading platform operators*, H.K. SECURITIES & FUTURES COMMISSION (Nov. 1, 2018), https://www.sfc.hk/web/EN/files/ER/PDF/App%202%20-%20Conceptual%20framework%20for%20the%20potential%20regulation%20of%20virtual%20asset%20trading%20platform%20operators_eng.pdf.

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In view of the risks associated with funds investing in crypto-assets, regulators may opt to impose regulatory standards on crypto-asset managers. This paper is of the view that such regulation should be risk-based and the imposed requirements should address specific concerns in relation to investor protection, while taking into consideration the scale of crypto-focused funds' activities and their impact on investors. Such regulatory framework should target the following risks:

- I. Difficulty in valuating of crypto-assets;
- II. Volatility in secondary markets and small liquidity pools;
- III. Inconsistent auditing and accounting standards;
- IV. Limited availability of custodian solutions; and
- V. Missing regulatory standards and increased occurrence of fraud.

The Securities and Futures Commission (SFC) of Hong Kong, which has recently issued a guidance on the regulatory standards expected of virtual asset portfolio managers and fund distributors, adopted this kind of regulatory approach.¹³⁹ In particular, the SFC has introduced the “Regulatory standards for licensed corporation managing virtual asset portfolios,” which sets out regulatory standards on funds investing in crypto-assets.¹⁴⁰ The SFC specified that the focus should be on the fund’s activity and the fund must be subject to securities regulation. In addition to the traditional licensing requirements applicable to funds, funds that intend to invest or are already investing in crypto-assets need to be licensed by the SFC and comply with crypto-specific standards. The standardized requirements include:¹⁴¹

- I. Asset managers should only allow accredited or institutional investors to invest in any portfolio that manages crypto-assets. Managers are also under an obligation to disclose all crypto-related risks.
- II. The fund manager should select the most appropriate custodial service for the crypto-assets under their management. This should be a third-party licensed custodian and the fund manager should make an informed assessment on the appropriateness of the given custodial solution.
- III. Funds should exercise due care in selecting valuation methodologies.
- IV. Funds should manage their risk-exposure vis-à-vis crypto-assets, in particular those which are illiquid or newly-launched. Fund managers are required to conduct adequate due diligence when managing their counterparty risk and assess the reliability and integrity of crypto-exchanges prior to dealing with them.
- V. Funds are required to have an independent auditor to audit their financial statements.
- VI. Restrictions are imposed on the amount of liquid capital required depending on the fund’s regulated activity.

https://www.sfc.hk/web/EN/files/ER/PDF/App%202_%20Conceptual%20framework%20for%20VA%20Trading%20platform_eng.pdf.

139. SEC, *Appendix I*, *supra* note 138.

140. *Id*; see also *supra* note 120.

141. Sources *supra* note 138.

Through this framework, the SFC has proposed that all managers that handle direct investments in crypto assets, including those managing funds that participate in ICOs, be held to the same licensing and regulatory requirements as managers that deal with securities. Some flexibility is built into the framework through the inclusion of a 10% *de minimis* threshold which allows managers to invest a small portion of funds in crypto-assets. The SFC has also specified that any terms and conditions imposed on the licensed manager can be changed to take into account the nature of the business. This reflects a nuanced approach which provides protection to investors that invest in any fund, regardless of the nature of the fund's intended investment. By introducing a broad, principles-based framework that incorporates existing standards, investors are provided with a level of protection that they are already familiar with which applies across the board. This sends a strong signal that the SFC would regard crypto-assets as being very similar to securities due to similar risks that investors in both class of assets face. However, the weakness with such an approach is that it assumes that the same regulatory approach towards securities is appropriate in the crypto-asset context. The rapidly evolving nature of the market further suggests that these regulations, and the conditions agreed with the managers, will have to be constantly revised to ensure the regulatory framework remains relevant. This is likely to be a tedious affair which, if not diligently carried out, risks causing any gains from the framework to fall by the wayside.

The registration and regulation of portfolio managers is necessary particularly when the mechanism of market reputation falls short. The imposition of a registration framework ensures that managers are held to minimum standards of care, skill, diligence and disclosure in their administration of the portfolio and helps to provide protection should issues arise with the investment. The introduction of a licensing framework signals to the market the high risks that an investment in crypto assets brings. While the registration framework will only apply to managers within the Hong Kong market, it should be recognized that any measure proposed by any other regulator will also be similarly limited to its respective jurisdiction. However, this framework will nonetheless have the dual effects of raising minimum standards within the jurisdiction and sending a warning discouraging investors from leaving their money with unlicensed foreign managers ungoverned by the framework. While it remains possible that foreign managers could circumvent the requirements by simply dealing on the Internet, this reflects the current limits of the law which remains bound by the concepts of sovereignty and jurisdiction over a particular territory. In any case, it would be impracticable for a regulator to attempt to prevent investors from taking their money to other jurisdictions – an investor that wishes to take on such a risk should be allowed to do so and the most the regulator can do is to provide warnings.

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3. Disqualification or regulatory blacklist

Another regulatory mechanism is disqualification, which can encompass a rich collection of techniques. Using timing as a benchmark for discussion, disqualification can be *ex ante*, with the aim to prevent certain offerings from happening, or *ex post*, with the aim to punish criminal or fraudulent activities discovered during an offering process by barring the participants' future involvement in the ICO market.

A prominent example of *ex ante* disqualification in a similar context is the “bad actor disqualification” under Rule 503 of the United States Regulation Crowdfunding regime, which seeks to disqualify an offering if the issuer or any other “covered person” has experienced a disqualifying event, such as a conviction of securities fraud.¹⁴² An arguable case can be made for considering the abovementioned example as an *ex post* measure instead, given that the effect of the disqualification is *ex post* with respect to the particular disqualifying event in question. However, a more granular analysis of the underlying basis of the rule reveals the weakness in this argument. Particularly, the list of disqualifying events under the Regulatory Crowdfunding regime seems to cover a generic range of activities, including making false filings with the SECs or revoking of a license (with no reason specified) to act as a broker, dealer, investment adviser and funding portal for covered persons other than the issuer.¹⁴³ The regulatory technique uses somewhat related securities violations or improper behavior as vague proxies to guard against the specific possibility of wrongdoing in crowdfunding; in other words, this aims to prevent a narrow stream of wrongdoings from occurring by relying on evidence of broadly defined prior wrongdoing. This is very much an *ex ante* philosophy that risks overregulation to achieve a preventive function.

Arguably, to directly transplant this rule into the ICO context may do more harm than good and risks killing the market entirely. Prospective issuers may be discouraged from seeking ICO even if they have only rubbed shoulders the wrong way with the SEC in a very minor incident. The reason why this risk did not seem to materialize in the crowdfunding space is that the disqualification is with respect to the issuer's ability to rely on the statutory exemption; even if disqualified, the issuer could still choose to undergo the more onerous procedures for an ordinary offering.¹⁴⁴ For ICOs, however, unless the regulatory authority is prepared to create an exemption for expedited ICOs (which is difficult given the

142. SEC, *Regulation Crowdfunding: A Small Entity Compliance Guide for Issuers*, SEC (Apr. 5, 2017), <https://www.sec.gov/info/smallbus/secg/recomplianceguide-051316.htm#7>.

143. SEC, *Final Rule: Crowdfunding*, SEC (2015), <https://www.sec.gov/rules/final/2015/33-9974.pdf> at 339-340.

144. Bradley Berman, MORRISON & FOERSTER LLP, *Bad Actor Disqualification Provisions*, LEXOLOGY <https://www.lexology.com/library/detail.aspx?g=db3f76ca-d03b-4c1a-acef-3d4504cd8901> (last visited Aug. 26, 2019).

lack of similar safeguarding infrastructure such as licensed intermediaries in Regulation Crowdfunding), it would be all or nothing for prospective issuers once this type of disqualification rule applies.

The purpose of this detailed analysis as to why the current bad actor disqualification in regulation Crowdfunding is more of an *ex ante* rule is to shed light on what regulators can do to turn the rule into an *ex post* one seeking to punish wrongdoers in the ICO context instead. Logically, in order to devise appropriate punishments, the regulator must carefully consider the exact contours of fraudulent or criminal activities in an ICO on which it wishes to impose punishments. To then enumerate these targeted activities as disqualifying events under its ICO regulatory framework would turn the rule into an *ex post* one, striking a right balance between guarding against scams and nurturing a conducive market.

More specifically, to achieve this regulatory goal, another lens through which disqualification can be understood warrants further discussion—the kind of actors covered under the rule. Again, using the example of the Regulation Crowdfunding disqualification, it can be seen that a great variety of actors can trigger disqualification, including the issuer itself, the management and major shareholders of the issuer, the promoters, the solicitors and their management.¹⁴⁵ These can be broadly classified into three distinct types of actors: the issuer entity, the intermediary, and the key individuals acting behind them. In the context of ICO regulation, however, some of these actors pose difficult issues in enforcement. Most notably, the issue of extraterritoriality haunts all three types of actors: ICO activities seem to be unprecedently elusive of national boundaries as compared to other forms of alternative financing in the rise during recent years, and these activities entail cross-border operations of virtual currency exchanges (the “intermediaries” in this case) and the potential geographical disconnect between the issuer (and its personnel) and the targeted funders. These raise difficult questions as to whether disqualification rules in a given jurisdiction should apply, and if they do, then to which specific persons.

4. Regulation of enforcement

In addition to improving the regulation surrounding ICOs, it is also important to implement an effective framework for enforcement. Regulation of enforcement in the crypto-space, while not directly impacting VCs, is nonetheless crucial in improving the regulatory environment so as to heighten the market integrity in ICOs and, in turn, facilitate the development of a healthy venture capital-crypto ecosystem.

Nevertheless, enforcement can hardly be described as a standalone regulatory strategy given that its efficacy closely depends on the substantive

145. SEC, *supra* note 142.

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regulatory norms, enforcement procedures, and the capacities of officials in charge of enforcement in a given jurisdiction. The importance of these two elements will be explored in the context of public and private enforcement in turn.

In terms of public enforcement (criminal and statutory sanctions being the primary subjects of discussion here), regulators generally face less of an issue with procedures and costs as compared to private individuals, with the most prominent constraint perhaps being an enforcement agency's resources and budget limits.¹⁴⁶ Instead, the key to successful public enforcement action is a good framework of substantive regulatory norms.

In the crypto context, the SEC has taken a number of securities enforcement actions against various problems in the market, including, such as: (1) Trading Halts or Suspensions;¹⁴⁷ (2) Securities Fraud or Ponzi;¹⁴⁸ (3) Pump and Dumps;¹⁴⁹ (4) Unregistered Offerings;¹⁵⁰ (5) Unregistered Exchanges;¹⁵¹ (6) Unregistered Broker Dealers;¹⁵² (7) Unregistered Investment Company;¹⁵³ (8) Illegal Offering of Complex Financial Products (security-based swaps).¹⁵⁴

The challenges to establishing a substantive framework are two-fold: first, the regulation over ICOs or crypto differs substantially from country to country largely due to the path dependence in the development of its regulatory approach. Jurisdictions tend to take a leaf from existing similar regulatory frameworks such as consumer protection laws and securities laws. Similar path dependence can be observed in academics' suggestion for the specific application of Chinese general illegal fundraising laws in the crowdfunding context.¹⁵⁵ A potential difficulty with this practice is whether such approximation will continue to hold true in the ICO context as technological advances and developments exceed regulators' wisdom.

The second challenge to creating a good substantive framework for public enforcement is that regulators may start out with different preferences on the

146. Lin, *supra* note 38, at 363.

147. Imogo Mobile (Feb. 2014); Sunshine Capital (Apr. 2017); Strategic Global (Aug. 2017); CIAO Group (Aug. 2017); First Bitcoin Capital (Aug. 2017); American Security Resources (Aug. 2017); Rocky Mountain Ayres (Sept. 2017); The Crypto Company (Dec. 2017); UBI Blockchain (Jan. 2018). Victura Construction (Feb. 2018); PDX Partners (Feb. 2018); Cherubim (Feb. 2018); HD View (Mar. 2018); IBITX (Apr. 2018); Evolution Blockchain (June 2018); Bitcoin Tracker One / Ether Tracker One (Sept. 2018); American Retail Group (Oct. 2018).

148. Shavers (July 2013); GAW Miners / ZenMiner (Dec. 2015); REcoin (Sept. 2017); PlexCorps (2017); AriseBank (Jan. 2018); Bitfunder (Feb. 2018); Centra (Apr. 2018) Titanium Blockchain (May 2018); Tomahawk (Aug. 2018); Blockvest LLC (Oct. 2018)

149. Saint James Holding (Oct. 2018).

150. Voorhees (June 2014); Munchee (Dec. 2017); Longfin (Apr. 2018); Jesky (July 2018).

151. BTC Trading / Burnside (Dec. 2014); DAO (July 2017); 1pool Ltd (Sept. 2018); EtherDelta (Nov. 2018).

152. TokenLot (Sept. 2018).

153. Crypto Asset Management LP (Sept. 2018).

154. Sand Hill Exchange (June 2015).

155. Lin, *supra* note 38, at 363.

investor-protection-market-building balance. Countries keen on encouraging the growth of the ICO market would naturally take a more hands-off and cautionary approach to devising applicable regulatory norms, often manifested in the unwillingness to make early decisions on intervention and the tendency to postpone legislative actions.¹⁵⁶ On the other hand, there are countries which are overwhelmingly concerned with the danger of fraud and ban ICOs outright,¹⁵⁷ such that there can be little discussion on a “substantive regulatory framework” apart from liability for conducting illegal ICOs. The adoption of these contrasting philosophies in public enforcement is likely to lead to diametrically opposed results on the dynamics and growth of the ICO markets (and, in the absence of a market in case of a complete ban, the ethos among ICO investors) in these respective jurisdictions.

In terms of private enforcement, all the problems above in the substantive rule-making stage can similarly impact private individuals seeking justice. The only norms in question are civil liability rules instead of criminal and statutory rules. More importantly, the ease with which individual plaintiffs can navigate civil procedures may be crucial to the efficacy of private enforcement. Procedures have already proven to be a major determinant of the private enforcement landscape in traditional securities law, where factors such as the robustness of the discovery process, lawyer’s compensation rules and opt-in versus opt-out class action schemes (and sometimes the absence of U.S.-style class action, such as in China,¹⁵⁸ Singapore¹⁵⁹ and Hong Kong)¹⁶⁰ have strong explanatory value for the intensity of private enforcement.¹⁶¹ There is no obvious reason why these factors will lose importance in private enforcement in the ICO context, especially considering that countries have the tendency to rely on existing securities law norms for ICO regulation as explained above.

V. CONCLUSION

Venture capital’s role in fostering cutting-edge technology companies is invaluable. The rise of the crypto-markets offering a new asset class and the ICOs

156. See similar trend in crowdfunding regulation described in Armour & Enriques, *supra* note 32.

157. Shannon Liao, *South Korea bans initial coin offerings*, THE VERGE (Sept. 29, 2017), <https://www.theverge.com/2017/9/29/16384718/south-korea-ban-initial-coin-offerings-bitcoin-cryptocurrency-icos>; BBC, *China bans initial coin offerings calling them ‘illegal fundraising’*, BBC NEWS (Sept. 5, 2017), <https://www.bbc.com/news/business-41157249>.

158. Richard Wigley, *Class Action-type Litigation in China*, CHINA L. INSIGHT (Aug. 26, 2014), <https://www.chinalawinsight.com/2014/08/articles/ip-2/class-action-type-litigation-in-china/>.

159. Ian Roberts & Vanessa Kilner, *Representative action in Singapore: The decision in Koh Chong Chiah v Treasure Resort*, CLYDE & CO (Mar. 3, 2014), <https://www.clydeco.com/insight/article/representative-action-in-singapore-the-decision-in-koh-chong-chiah-v-treasu>.

160. Simon Powell & Chi Ho Kwan, *Litigation and enforcement in Hong Kong: Overview*, PRACTICAL LAW (Oct. 1, 2018), <[https://uk.practicallaw.thomsonreuters.com/0-520-6543?transitionType=Default&contextData=\(sc.Default\)](https://uk.practicallaw.thomsonreuters.com/0-520-6543?transitionType=Default&contextData=(sc.Default))>.

161. See, e.g., Bernard S. Black et al., *Outside Director Liability*, 58 STAN. L. REV. 1055 (2006).

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presenting a new funding model has prompted a structural shift in the venture capital sector. The question is which business model – whether hybrid or pure – will add more value to start-ups and is the most suitable legal vehicle for investors. Considering the changes within the venture capital sector, close attention should be paid to how to address new risks brought about by the novel venture capital or ICO hybrid models and how to effectively protect investors in face of regulatory uncertainty. While regulation should continue to support innovation and the application of beneficial technologies, including blockchain technologies, improvements can be made to the regulatory system by increased regulatory clarity on crypto-centric funds and fund managers. Regulation should also be complemented by effective enforcement, as well as various market mechanisms including contractual design, reputation and insurance.